SPP-888

SERVICE MANUAL

E Model

Base phone

Cordless handset

SPECIFICATIONS

General

Dial signal
Tone, 10 PPS (pulse) selectable
Supplied accessories
See page 3.

Cordless handset

Power source
Rechargeable battery pack BP-T16
Battery life
Standby: Approx. 8 days
Talk: Approx. 6 hours
Battery charging time
Approx. 12 hours
Dimensions
Approx. 54 × 195 × 49 mm (w/h/d), antenna excluded
(approx. 2 1/4 × 7 3/4 × 1 15/16 inches)
Antenna: Approx. 285 mm
(approx. 11 1/4 inches)
Mass
Approx. 255 g (approx. 8 oz), battery included

Base phone

Power source
DC 9V from AC power adaptor
Dimensions
Approx. 185 × 95 × 215 mm (w/h/d), antenna excluded
(approx. 7 3/8 × 3 3/4 × 8 1/2 inches)
Antenna: Approx. 700 mm
(approx. 27 5/8 inches)
Mass
Approx. 755 g (approx. 27 oz)

Cordless handset charge cradle

Power source
DC 9V from AC power adaptor
Dimensions
Approx. 68 × 90 × 220 mm (w/h/d)
(approx. 2 3/4 × 3 5/8 × 8 3/4 inches)
Mass
Approx. 180 g (approx. 6 oz), wall bracket included

Design and specifications are subject to change without notice.

CORDLESS TELEPHONE

MICROFILM

SONY®

TABLE OF CONTENTS

1. GENERAL
Read this first 3
Checking the package contents 3
Setting up the base phone 3
Preparing the battery pack 4
Making calls 4
Receiving calls 6
One-touch dialing 6
Speed dialing 7
Phone Directory 7
Switching the phones during a call 9
Talking between the phones (Intercom) 9
Voice paging 9
Transferring a call 10
First digit “0” call restriction 10
Changing the digital security code 11
Mounting the cordless handset charge cradle 11

2. DISASSEMBLY
2-1. Cabinet (Lower) 13
2-2. Base LCD Board 13
2-3. Base Key Board 14
2-4. Base Mic Board 14
2-5. Base Main Board 15
2-6. Cabinet (Rear) 15
2-7. Hand Main Board 16

3. TEST MODE
Base Phone Section 17
Handset Section 19

4. ELECTRICAL ADJUSTMENTS
Base Phone Section 22
Handset Section 24

5. DIAGRAMS
5-1. IC Pin Description 26
5-2. Block Diagram –Base Phone Section– 27
5-3. Block Diagram –Handset Section– 28
5-4. Printed Wiring Board –Base Key Section– 29
5-5. Schematic Diagram –Base Key Section– 29
5-6. Printed Wiring Boards –Base Main Section– 30
5-7. Schematic Diagram –Base Main (1/3) Section– 31
5-8. Schematic Diagram –Base Main (2/3) Section– 32
5-9. Schematic Diagram –Base Main (3/3) Section– 33
5-10. Printed Wiring Board –Base LCD Section– 34
5-11. Schematic Diagram –Base LCD Section– 35
5-12. Printed Wiring Board –Hand Main Section– 36
5-13. Schematic Diagram –Hand Main Section– 37
5-14. Printed Wiring Board –Hand Key Section– 38
5-15. Schematic Diagram –Hand Key Section– 39

6. EXPLODED VIEWS
6-1. Base Phone Section 44
6-2. Handset Section 45

7. ELECTRICAL PARTS LIST 46

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

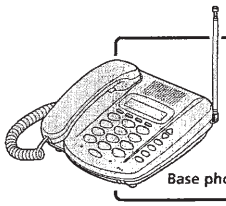
This section is extracted from instruction manual.

Read this first

Before you use your phone, you must first set it up. Here's a quick way to set up your phone: Steps 1, 2, and 3.

Step 1 (page 5)

First, unpack the phone and the supplied accessories.



Step 2 (pages 6 to 8)

Next, you need to do three things to set up the base phone, including finding the best location for the base phone.

Base phone

Step 3 (pages 9 to 10)

Then, insert the battery pack into the cordless handset and charge it for more than 12 hours.

Cordless handset

That's it!

About the digital security code

This cordless telephone uses a digital security code to provide protection against unintentional access to your base phone.

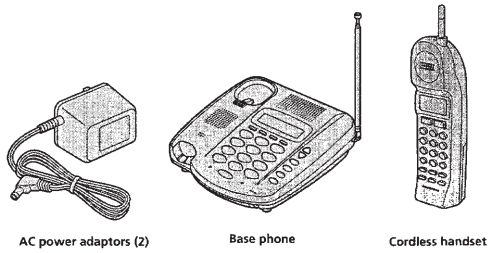
This security code prevents other cordless handsets from making calls through your base phone.

If you want to change the digital security code manually, see page 37.

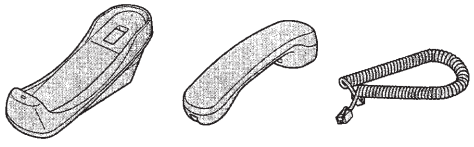
Step 1

Checking the package contents

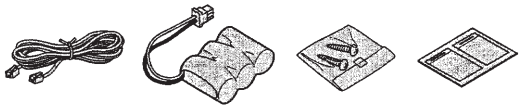
Make sure you have received the following items in the package. If anything is missing, contact your local Sony dealer.



AC power adaptors (2) | Base phone | Cordless handset



Cordless handset charge cradle | Handset | Handset cord



Telephone line cord | Rechargeable battery pack (BP-T16) | Screws (2) | Directories

Step 2

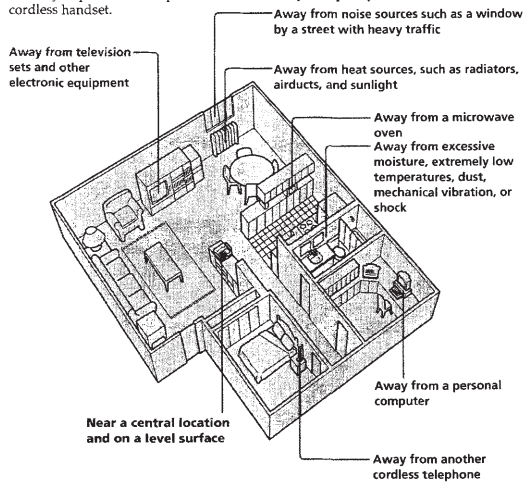
Setting up the base phone

Do the following steps:

- Choose the best location
- Connect the base phone
- Choose the dialing mode

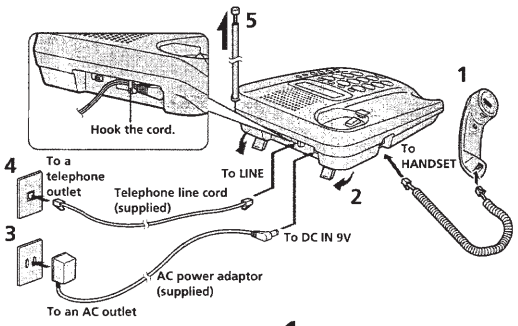
Choose the best location

Where you place the base phone affects the reception quality of the cordless handset.


Away from noise sources such as a window by a street with heavy traffic
Away from television sets and other electronic equipment
Away from heat sources, such as radiators, airducts, and sunlight
Away from a microwave oven
Away from excessive moisture, extremely low temperatures, dust, mechanical vibration, or shock
Away from a personal computer
Near a central location and on a level surface
Away from another cordless telephone

CAUTION: • Should you experience intermittent loss of audio during a conversation, try moving closer to the base or move base phone away from other noise sources.
• The cordless telephone operates at a frequency that may cause interference to nearby TVs and VCRs; the base phone should not be placed near or on the top of a TV or VCR; and, if interference is experienced, moving the cordless telephone farther away from the TV or VCR will often reduce or eliminate the interference.

Connect the base phone



1 Connect the handset cord to the HANDSET jack and to the handset.

2 Pull out the two legs on the bottom of the base phone to tilt the phone.

3 Connect the AC power adaptor to the DC IN 9V jack and to an AC outlet.
The POWER lamp lights up.

4 Connect the telephone line cord to the LINE jack and to a telephone outlet.

5 Fully extend the antenna. Make sure it points towards the ceiling.

continued

Step 2: Setting up the base phone (continued)

Notes

- Use only the supplied AC power adaptor. Do not use any other AC power adaptor.
- Connect the AC power adaptor to a continuous power supply.
- Place the base phone close to the AC outlet so that you can unplug the AC power adaptor easily.

Polarity of the plug

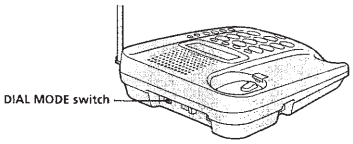
Tip

If your telephone outlet is not modular, contact your telephone service company for assistance.

Modular

Choose the dialing mode

For the telephone to work properly, select an appropriate dialing mode (tone or pulse).



Depending on your dialing system, set the DIAL MODE switch as follows:

If your dialing system is	Set the switch to
Tone	T
Pulse	P

If you are not sure of your dialing system

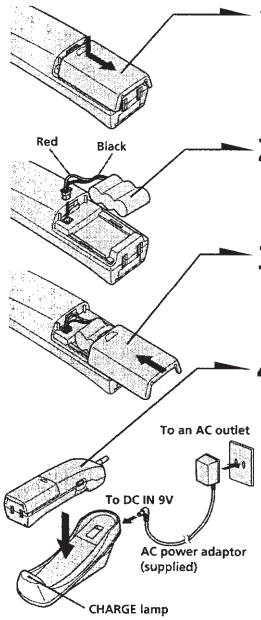
Make a trial call with the DIAL MODE switch set to T.

If the call connects, leave the switch as is; otherwise, set to P.

Step 3

Preparing the battery pack

Charge the battery pack for more than 12 hours before you start using your cordless handset. If you want to hang the cordless handset charge cradle, see page 39.



1 Slide open the battery compartment lid of the cordless handset.

2 Connect the battery connector with correct polarity (black and red cords).

3 Insert the battery pack, and then close the lid.

4 Connect the AC power adaptor to the DC IN 9V jack and to an AC outlet and place the cordless handset on the cordless handset charge cradle.

The CHARGE lamp on the cordless handset charge cradle lights up when the cordless handset is properly seated on the charge terminals of the cordless handset charge cradle. Charge the battery pack for more than 12 hours so that the battery is fully charged. The CHARGE lamp remains lit even after charging is completed.

continued

Step 3: Preparing the battery pack (continued)

Battery duration

A fully charged battery pack lasts for about:

- 6 hours when you use the cordless handset continuously.
- 8 days when the cordless handset is in standby mode.

Notes

- The battery pack will gradually discharge over a long period of time, even when not in use.
- To obtain the best cordless handset performance, place the cordless handset on the cordless handset charge cradle for charging after several calls.
- When the indicator and "BATTERY LOW" appear on the display, place the cordless handset on the cordless handset charge cradle for charging.
- If you leave the battery pack in the cordless handset without charging it, the battery pack will be completely discharged. In this case, place the cordless handset on the cordless handset charge cradle for charging.
  It may require several times of charging to recover to its full capacity.

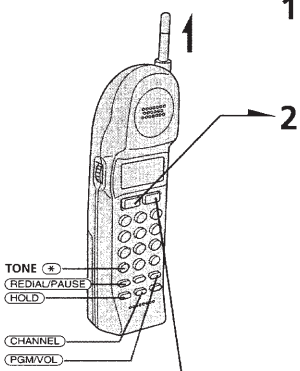
When to purchase a new battery pack

If the battery lasts only a few minutes even after 12 hours of charging, the usable life of the battery has expired and needs replacement. Contact your local Sony authorized dealer or service center, and ask for a Sony BP-T16 rechargeable battery pack.

Note

Battery life may vary depending on usage condition and ambient temperature.

Making calls



1 Pick up the cordless handset from the cordless handset charge cradle and fully extend the antenna of the cordless handset.

2 Press (TALK) and wait until "TALK" appears on the display.

The dialing keys light up. You will then hear a dial tone.

The LINE lamp on the base phone lights up.

The display shows the operation duration in hours, minutes and seconds.

If you hear five short error beeps and "OUT OF RANGE" appears on the display, move closer to the base phone and try again.

3 Dial the phone number.

During a conversation, you can adjust the cordless handset volume.

Follow the procedure described in the table on the next page.

4 When you are done talking, press (OFF) or replace the cordless handset on the cordless handset charge cradle.

The display and the LINE lamp on the base phone go off.

During a power failure

During a power failure, you can make or receive calls. For details, see page 41.

continued

Making calls (continued)

Additional tasks

To	Do this
Adjust the cordless handset volume	During phone conversations, press (PGM/VOL). Each press of (PGM/VOL) switches the cordless handset volume level between HIGH and NORM (normal). The display shows the selected level.
Put a call on hold	Press (HOLD). "HOLD" appears on the display. Press (HOLD) again or pick up the cordless handset from the cordless handset charge cradle to resume the conversation.
Switch to tone dialing temporarily	Press TONE (*) after you are connected. The line will remain in tone dialing until disconnected.

Notes

- If you hear beeps during the conversation, move closer to the base phone; otherwise, the call will be disconnected after 15 seconds. Note that, however, you may not hear beeps if it is noisy on the cordless handset.
- While conversing with an outside caller via the base phone, you cannot make a call with the cordless handset. If you press (TALK), "BUSY" will appear on the display and you will hear a busy tone.
- When the first digit "0" call restriction is enabled, if you make a call to the number which first digit is 0, you hear five short error beeps and "BUSY" appears on the display, and the number is not connected.
- When the operation duration exceeds 9:59'59, the display counts from 0:00'00 again.

If interference occurs on the cordless handset

When you press (TALK), the cordless handset automatically searches for the channel with the best reception. However, if you notice interference during a conversation, move closer to the base phone.

If interference persists, press (CHANNEL) to switch to another channel to improve the sound quality of your telephone conversation.

Note

When you press (CHANNEL), if you hear five short error beeps and "OUT OF RANGE" appears on the display, move closer to the base phone.

If the battery becomes weak during a call

The cordless handset will beep every three seconds, and "BATTERY LOW" appear on the display. Finish your call and charge the battery pack.

If this occurs, you cannot use the cordless handset without charging it for more than one minute.

For optimum performance, charge the battery for a full 12 hours.

Making calls with the base phone

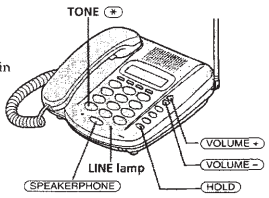
Pick up the handset or press (SPEAKERPHONE) on the base phone.

The LINE lamp lights up.

The display shows the operation duration in hours, minutes and seconds.

Dial the phone number.

When you are done talking, replace the handset in the cradle or press (SPEAKERPHONE) again.



Additional tasks

To	Do this
Adjust the speaker volume	During phone conversations, press (VOLUME +) or (VOLUME –) to adjust the speaker volume to one of 10 levels. The speaker volume level ("SPP=1" minimum ~ "SPP=10" maximum) appears on the display.
Put a call on hold	Press (HOLD). "Hold" appears on the display. Press (HOLD) again or pick up the handset to resume the conversation.
Switch to tone dialing temporarily	Press TONE (*) after you are connected. The line will remain in tone dialing until disconnected.

continued

Making calls (continued)

Notes

- While conversing with an outside caller via the cordless handset, you cannot make a call with the base phone. If you pick up the handset or press (SPEAKERPHONE), "bUSY" will appear on the display and you will hear a busy tone.
- When the first digit "0" call restriction is enabled, if you make a call to the number which first digit is 0, you hear five short error beeps and "O-n" flashes on the display, and the number is not connected.
- When the operation duration exceeds 9-59-59, the display counts from 0-00-00 again.

To obtain the best speakerphone performance

- You may not be able to hear the other party's voice in a noisy place. Therefore, use the speakerphone in a quiet room.
- Do not bring your hand or other object too close to the microphone or you will hear a shrill noise ("feedback").
- When the speaker volume is loud, or the base phone has been placed close to a wall, you may find that the volume drops suddenly. This is due to a circuit in the telephone designed to protect against feedback. In such cases, lower the speaker volume slightly.

Redialing

1 Press (TALK) and wait until "TALK" appears on the display.
The LINE lamp on the base phone lights up.
If you are at the base phone, pick up the handset or press (SPEAKERPHONE).
The LINE lamp lights up.

2 Press (REDIAL/PAUSE) to redial the last number dialed.

Notes

- If the number exceeds 32 digits or if it is erased, five short error beeps will alert you that the number cannot be redialed.
- When the first digit "0" call restriction is enabled, if you redial to the number which first digit is 0, you hear five short error beeps and "BUSY" appears on the display of the cordless handset or "O-n" flashes on the display of the base phone, and the number is not connected.

To check the phone number before redialing

Before making a call with either the cordless handset or base phone, press (REDIAL/PAUSE).

The last number dialed is displayed.

To dial the number, press (TALK) while the number is displayed. If you are at the base phone, pick up the handset or press (SPEAKERPHONE).

Note

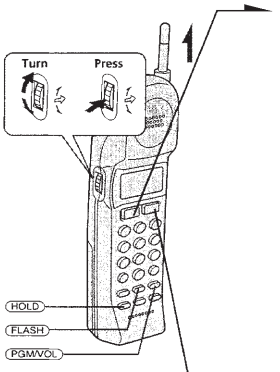
The number will not be displayed if the last number dialed exceeds 32 digits or if it is erased.

To erase the last phone number dialed

When not conversing with an outside caller with either the cordless handset or base phone, press (REDIAL/PAUSE) twice within five seconds.

The number will be erased from the memory, and you will hear a long confirmation beep.

Receiving calls



1 When you hear the phone ring:

- Press TALK (or any key except OFF).

  or

- Pick up the cordless handset from the cordless handset charge cradle when the cordless handset is placed on the cordless handset charge cradle.

Fully extend the antenna of the cordless handset.

"TALK" appears on the display.

The LINE lamp on the base phone lights up.

The display shows the operation duration in hours, minutes and seconds.

During a conversation, you can adjust the cordless handset volume.

Follow the procedure described in the table on the next page.

2 When you are done talking, press OFF or replace the cordless handset on the cordless handset charge cradle.

The display and the LINE lamp on the base phone go off.

Additional tasks

To	Do this
Adjust the cordless handset volume	During phone conversations, press PGM/VOL. Each press of PGM/VOL switches the cordless handset volume level between HIGH and NORM (normal). The display shows the selected level.
Put a call on hold	Press HOLD. "HOLD" appears on the display. Press HOLD again or pick up the cordless handset from the cordless handset charge cradle to resume the conversation.
Adjust the ringer volume	Press PGM/VOL, and move the cursor to "HIGH", "LOW" or "OFF" by turning Jog Dial, and then press Jog Dial. You will hear a long confirmation beep. When "OFF" is selected, "RINGER OFF" appears on the display.
Switch to another call ("call waiting" service*)	Press FLASH. Press FLASH again to return to the first caller.

* You need to subscribe to this service from your telephone company.

Note

Even when you set "RINGER VOLUME" on the cordless handset to "RINGER OFF", the base phone will ring when the ringer volume on the base phone is set to "Hi" or "Lo".

Tip

To inform you of an incoming call, the display shows "** RINGING **" according to the ring signal even when you set "RINGER VOLUME" to "RINGER OFF".

continued

Receiving calls (continued)

Receiving calls with the base phone

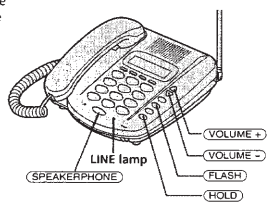
When you hear the phone ring, pick up the handset or press SPEAKERPHONE on the base phone.

The LINE lamp lights up.

The display shows the operation duration in hours, minutes and seconds.

When you are done talking, replace the handset in the cradle or press SPEAKERPHONE again.

To obtain the best speakerphone performance, see page 14.



Additional tasks

To	Do this
Adjust the speaker volume	During phone conversations, press VOLUME + or VOLUME - to adjust the speaker volume to one of 10 levels. The speaker volume level ("SPP=1" minimum ~ "SPP=10" maximum) appears on the display.
Put a call on hold	Press HOLD. "Hold" appears on the display. Press HOLD again or pick up the handset to resume the conversation.
Adjust the ringer volume	Press VOLUME + or VOLUME - to adjust the ringer volume to "Hi"(high), "Lo"(low) or "OFF" which appears on the display. When "OFF" is selected, you will hear a confirmation beep and "RINGER OFF" appears on the display.
Switch to another call ("call waiting" service*)	Press FLASH. Press FLASH again to return to the first caller.

* You need to subscribe to this service from your telephone company.

Note

Even when you set the ringer volume on the base phone to "RINGER OFF", the cordless handset will ring when "RINGER VOLUME" on the cordless handset is set to "HIGH" or "LOW".

Tip

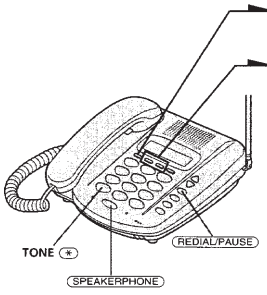
To inform you of an incoming call, the LINE lamp flashes even when you set the ringer volume to "RINGER OFF".

Telephone Features

One-touch dialing

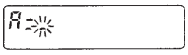
You can dial with one touch of a key by storing a phone number on a one-touch dial button.

Storing phone numbers on the base phone



1 Press PROGRAM.

2 Press one of the ONE-TOUCH DIAL buttons (A or B).



If a number is stored, it appears on the display.

3 Enter the phone number you want to store.

You can enter up to 16 digits, including a tone and a pause, each of which is counted as one digit.

4 Press PROGRAM.

You will hear a long confirmation beep, and the number is stored.

The display goes off.

Note

Do not allow more than 20 seconds to elapse between each step of the procedure.

Tips

- If you have entered a wrong number in step 3, press PROGRAM, then start from the beginning.
- Use the supplied directory to write down what you stored on the one-touch dialing numbers.

continued

One-touch dialing (continued)

To store a number to be dialed via Private Branch Exchange (PBX)

Before entering a phone number in step 3 on page 19, do as follows:

1 Enter the outside line access digit (e.g., 9).

2 Press (REDIAL/PAUSE).

To change a stored number

Store a new number, as described previously.

Note

You can replace the stored number with a new number, but you cannot just erase it.

Making calls with one-touch dialing

1 Pick up the handset, or press (SPEAKERPHONE).

2 Press one of the ONE-TOUCH DIAL buttons ((A) or (B)).

The phone number stored on the one-touch dialing button will appear on the display and will be dialed.

To check the phone number before one-touch dialing

Before making a call with the base phone, press one of the ONE-TOUCH DIAL buttons ((A) or (B)).

The number stored for that button appears on the display for five seconds. To dial the number, pick up the handset or press (SPEAKERPHONE) while the number is displayed.

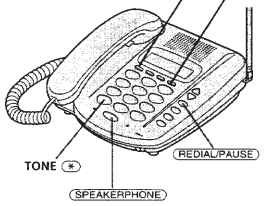
Note

When the first digit "0" call restriction is enabled, if you make a call with one-touch dialing to the number which first digit is 0, you hear five short error beeps and "o—" flashes on the display, and the number is not connected.

Speed dialing

You can dial with a touch of a few keys by storing a phone number on a dialing key.

Storing phone numbers on the base phone



1 Press (PROGRAM).

2 Press (SPEED DIAL).

3 Press one of the dialing keys ((0) to (9)) to store a phone number on.

You will hear a confirmation beep.

4 Enter the phone number you want to store.

You can enter up to 16 digits, including a tone and a pause, each of which is counted as one digit.

5 Press (PROGRAM).

You will hear a long confirmation beep, and the number is stored.

Note

Do not allow more than 20 seconds to elapse between each step of the procedure.

Tips

- If you enter a wrong number in step 4, press (PROGRAM), then start from the beginning.
- Use the supplied directory to write down what you stored on the speed dialing numbers.

continued

Speed dialing (continued)

To store a number to be dialed via Private Branch Exchange (PBX)

Before entering a phone number in step 4 on page 21, do as follows:

1 Enter the outside line access digit (e.g., 9).

2 Press (REDIAL/PAUSE).

To change a stored number

Store a new number, as described previously.

Making calls with speed dialing

1 Pick up the handset, or press (SPEAKERPHONE).

2 Press (SPEED DIAL).

3 Enter the desired speed dialing number ((0) to (9)).

The phone number stored as the speed dialing number will be dialed.

To check the phone number before speed dialing

Before making a call with the base phone, press (SPEED DIAL) and then one of the dialing keys ((0) to (9)).

The number stored on the key appears on the display for five seconds. To dial the number, pick up the handset or press (SPEAKERPHONE) while the number is displayed.

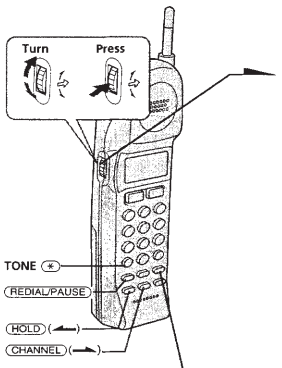
Note

When the first digit "0" call restriction is enabled, if you make a call with speed dialing to the number which first digit is 0, you hear five short error beeps and "o—" flashes on the display, and the number is not connected.

Phone Directory

You can dial a number by scrolling through the Phone Directory, in which up to 100 phone numbers can be stored.

Storing phone numbers and names on the cordless handset



Example: to store "SONY" "123-4567".

1 Press Jog Dial.

"ENTER NAME" appears.

2 Enter the name using Jog Dial. You can enter up to 16 characters.

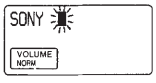
Turn Jog Dial until the desired character appears and press Jog Dial.

Enter successive characters in the same way.

The following characters can be entered.

ABC...XYZ ↔ 1 - 0 ↔ . - / '

To enter a "space", press (CHANNEL) (—►). The cursor moves to the right.



3 Press (PGM/VOL).

"ENTER NUMBER" appears.

continued

4 Enter the phone number by pressing the dialing keys.

You can enter up to 16 digits, including a tone and a pause, each of which is counted as one digit.

5 Press PGM/VOL or Jog Dial.

You will hear a long confirmation beep, and the name and the number are stored.

The display goes off.

Notes

- If you intend to save a 101st phone number, you will hear five short error beeps and "MEMORY FULL" will be displayed. You cannot store the phone number. To store another phone number, erase one of the stored phone numbers (see page 26).
- Do not allow more than 20 seconds to elapse between each step of the procedure.

Tips

- You can press Jog Dial instead of CHANNEL (▬) for entering a "space" in step 2.
- If you have entered a wrong character in step 2, press HOLD (◀▬) to move the cursor back to the character to be changed, then enter the correct character(s). To change the number, see page 25.

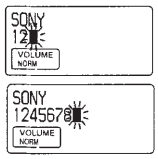
To store a number to be dialed via Private Branch Exchange (PBX)

Before entering a phone number in step 4, do as follows:

1 Enter the outside line access digit (e.g., 9).

2 Press REDIAL/PAUSE.

7 You can add numbers following the last digit, or erase a number which is flashing. Press HOLD (◀▬) to move the cursor back to the number to be changed, then enter the correct number(s) by pressing the dialing keys.



8 Press PGM/VOL or Jog Dial.

You will hear a long confirmation beep and the name and/or the number is changed.

Erasing a memory location

1 Display the name and phone number you want to erase by turning Jog Dial.

The names appear in alphabetical order.

2 Press Jog Dial.

3 Turn Jog Dial up to make "ERASE" flash and press Jog Dial.

4 Turn Jog Dial up to make "YES" flash, then press Jog Dial.

You hear a long confirmation beep and the memory location is erased.

Changing a stored name and/or phone number

1 Display the name and phone number you want to change by turning Jog Dial.

The names appear in alphabetical order.

2 Press Jog Dial.

3 Turn Jog Dial up to make "EDIT" flash and press Jog Dial.

The cursor flashes at the right side of the last character of the name.

If you do not change the name, follow the procedure from step 6.

4 Press HOLD (◀▬) until the character to be changed flashes.

5 Enter the new name from the point where the cursor is flashing.

Turn Jog Dial until the desired character appears and press Jog Dial.

The following characters can be entered.

ABC...XYZ ↔ 1 - 0 ↔ . - / '

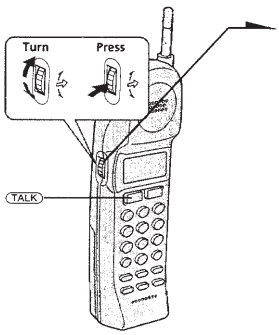
6 Press PGM/VOL.

The cursor flashes at the right side of the last digit of the phone number.

If you do not change the number, go to step 8.

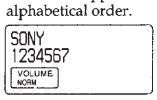
continued

Making calls from the Phone Directory



1 Display the name and phone number you want to call by turning Jog Dial.

The names appear in alphabetical order.



2 Press Jog Dial.

3 Press Jog Dial again.

The phone number will be dialed.

Notes

- If there is no name and/or phone number stored in Phone Directory, "NO DATA" will appear in step 1.
- When the first digit "0" call restriction is enabled, if you make a call from the Phone Directory to the number which first digit is 0, you hear five short error beeps and "BUSY" appears on the display, and the number is not connected.

Tip

You may press TALK to make a call instead of doing steps 2 and 3.

About the search order

The names appear in the following order when you turn Jog Dial up or down.

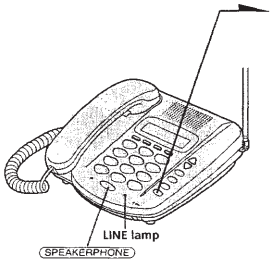
- Alphabetical order: ABC... XYZ ↔ 1 - 0 ↔ . - / '

The names are sorted with only the first character. When some names have the same first character, these names appears in order in which they are stored in Phone Directory.

Switching the phones during a call

You can easily switch between the cordless handset and the base phone without disconnecting the call.

To switch from the base phone to the cordless handset



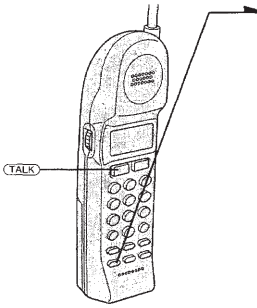
1 Press HOLD on the base phone. If using the handset, place it in the cradle.

The call is on hold and "Hold" appears on the display and the LINE lamp on the base phone flashes.

2 Press TALK or HOLD on the cordless handset.

You can continue talking to the caller through the cordless handset.

To switch from the cordless handset to the base phone



1 Press HOLD on the cordless handset.

The call is on hold and "HOLD" appears on the display and the LINE lamp on the base phone flashes.

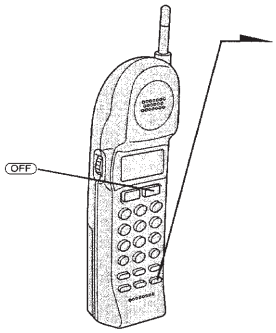
2 Pick up the handset or press SPEAKERPHONE on the base phone.

You can continue talking to the caller through the base phone.

Talking between the phones (Intercom)

You can converse using the base phone and the cordless handset. You can start the intercom from either phone.

To talk from the cordless handset to the base phone



Press INTERCOM.

The base phone rings and "✱✱ PAGING ✱✱" appears on the display of the cordless handset.

When a person at the base phone picks up the handset from the base phone or presses SPEAKERPHONE or INTERCOM, you can talk with each other.

"INTERCOM" appears on the display of the cordless handset.

When you are done talking

Press OFF on the cordless handset or place the cordless handset on the cordless handset charge cradle.

If no one answers the phone

Press INTERCOM again.

Note

While conversing with an outside caller via the base phone, you cannot make an intercom call. If you press INTERCOM, "BUSY" will appear on the display and you will hear a busy tone.

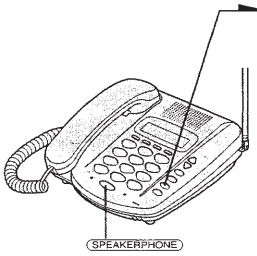
Tip

You can receive an intercom call on the cordless handset even when "RINGER VOLUME" is set to "RINGER OFF". The cordless handset will ring at a low level.

continued

Talking between the phones (continued)

To talk from the base phone to the cordless handset



Press INTERCOM.

The cordless handset rings and "✱✱ PAGING ✱✱" appears on the display of the cordless handset.

When a person at the cordless handset presses TALK or INTERCOM, you can talk with each other.

"INTERCOM" appears on the display of the cordless handset.

When you are done talking

Place the handset or press SPEAKERPHONE on the base phone.

If no one answers the phone

Press INTERCOM again.

Notes

- If there's an incoming call while on the intercom, only the base phone rings. To answer the call, finish the intercom first.
- While conversing with an outside caller via the cordless handset, you cannot make an intercom call. If you press INTERCOM, "bUSY" will appear on the display and you will hear a busy tone.

Tip

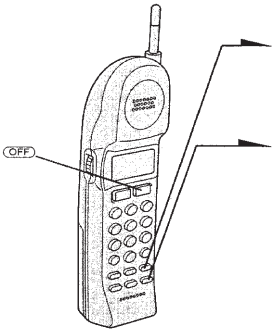
You can receive an intercom call on the base phone even when the ringer volume is set to "RINGER OFF". The base phone will ring at a low level.

Voice paging

The cordless handset user can page someone near the base phone without any operation on the base phone. Neither phones will ring.

Note that you cannot page if the base phone is in use.

To page with voice



1 Press PGM/VOL.

2 Press INTERCOM.

"INTERCOM" appears on the display of the cordless handset, and you can begin talking.

When you are done talking

Press OFF on the cordless handset or place the cordless handset on the cordless handset charge cradle.

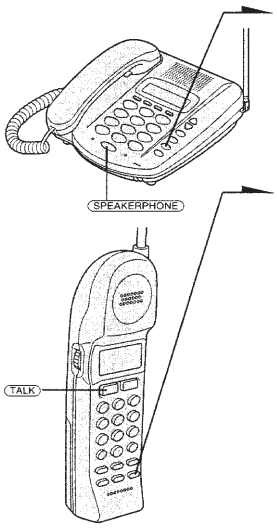
Notes

- If there's an incoming call during voice paging, only the base phone rings. To answer the call, finish the voice paging first.
- While conversing with an outside caller via the base phone, you cannot make an intercom call. If you press INTERCOM, "BUSY" will appear on the display and you will hear a busy tone.

Transferring a call

You can transfer a call between the cordless handset and base phone without disconnecting the call.

To transfer from the base phone to the cordless handset



1 Press INTERCOM to page the cordless handset.

The call is put on hold on the base phone and the cordless handset rings.

"✱✱ PAGING ✱✱" appears on the display of the cordless handset.

2 Press TALK or INTERCOM on the cordless handset.

"INTERCOM" appears on the display of the cordless handset.

You can talk between the base phone and the cordless handset.

3 To talk to the caller with the cordless handset, place the handset or press SPEAKERPHONE on the base phone.

"TALK" appears on the display of the cordless handset.

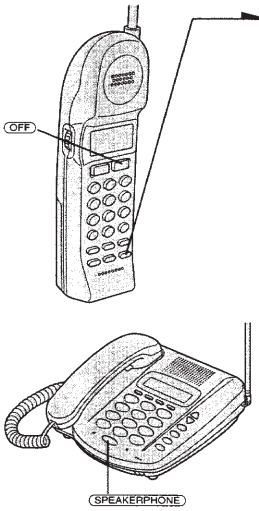
If no one answers the phone

Press INTERCOM again.

Tips

- If you have accidentally pressed HOLD in step 1, just press INTERCOM and you will get the same result as by pressing INTERCOM only.
- You can receive an intercom call on the cordless handset even when "RINGER VOLUME" is set to "RINGER OFF". The cordless handset will ring at a low level.

To transfer from the cordless handset to the base phone



1 Press INTERCOM to page the base phone.

The call is put on hold on the cordless handset and the base phone rings.

"✱✱ PAGING ✱✱" appears on the display of the cordless handset.

2 Pick up the handset from the base phone or, press SPEAKERPHONE on the base phone.

"INTERCOM" appears on the display of the cordless handset.

You can talk between the cordless handset and the base phone.

3 To talk to the caller with the base phone, press OFF on the cordless handset or place the cordless handset on the cordless handset charge cradle.

If no one answers the phone

Press INTERCOM again.

Tips

- If you have accidentally pressed HOLD in step 1, just press INTERCOM and you will get the same result as by pressing INTERCOM only.
- You can receive an intercom call on the base phone even when the ringer volume is set to "RINGER OFF". The base phone will ring at a low level.

Additional Information

First digit "0" call restriction

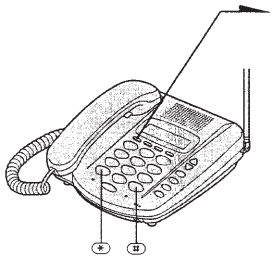
Use this feature to prevent long distance calls and international calls from being made with the base phone or cordless handset. When the first digit "0" call restriction is enabled, the phone cannot dial and redial numbers with "0" as the first digit. Also, the phone cannot make calls with one-touch dialing, speed dialing or from the Phone Directory to the numbers with "0" as the first digit.

The first digit "0" call restriction can only be enabled/disabled with the base phone.

To enable/disable this feature, the ID code is necessary.

Setting/changing the ID code

Setting/changing of the ID code is possible when the first digit "0" call restriction is disabled and you are not using either the cordless handset or base phone.

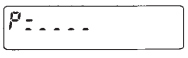


1 Press PROGRAM.

2 Press ✱ and then #.

You will hear a confirmation beep.

3 Enter the four-digit ID code (0000 to 9999) using the dialing keys.



When setting the ID code for the first time, enter the factory setting "0000" using the dialing keys. When changing the ID code, enter the previously set four-digit ID code using the dialing keys.

4 Press PROGRAM.

You will hear a confirmation beep.

5 Enter a new four-digit ID code (0000 to 9999) using the dialing keys.

Write down the ID code on the "ID Code Record Card" on page 48 and store it in a safe place for future reference.

6 Press PROGRAM.

You will hear a long confirmation beep, and the new ID code is set.

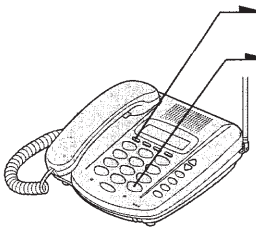
Notes

- If the wrong ID code is entered in step 3, you will hear five short error beeps and the setting mode is canceled. In this case, start from the beginning.
- If you forget your ID code, contact your local Sony authorized dealer or service center.

continued

First digit "0" call restriction (continued)

Enabling/disabling the first digit "0" call restriction



1 Pick up the handset from the base phone.

2 Press (PROGRAM).

3 Press (#).
You will hear a confirmation beep.

4 Enter the four-digit ID code (0000 to 9999) using the dialing keys.

5 Press (PROGRAM).
You will hear a long confirmation beep, and the first digit "0" call restriction is enabled/disabled.
When the first digit "0" call restriction is enabled, "O-n" appears on the display.

Notes

- The above procedure toggles between enabling/disabling of the first digit "0" call restriction.
- When the first digit "0" call restriction is enabled, if you make a call with the base phone or cordless handset to the number which first digit is 0, you hear five short error beeps and "BUSY" appears on the display of the cordless handset or "O-n" flashes on the display of the base phone, and the number is not connected.
- During a power failure, the first digit "0" call restriction can be enabled/disabled, however its setting cannot be saved.
- While performing enabling/disabling the first digit "0" call restriction, the phone cannot receive calls. If you press (TALK) or (INTERCOM) on the cordless handset, you will hear a busy tone.

Changing the digital security code

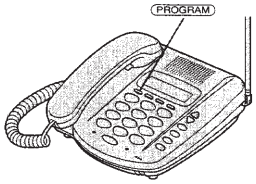
The digital security code prevents other cordless handsets from making calls through your base phone.
You normally do not need to change the digital security code. However, in the very unlikely event that you suspect that another cordless phone uses the same digital security code, you can change the code manually.

Example: to store "1234".

1 Press and hold (PROGRAM) on the base phone until "Id" appears on the display of the base phone.

2 Press (PGM/VOL) on the cordless handset .
"RINGER VOLUME" appears on the display of the cordless handset.
The dialing keys light up.

3 Press (#) on the cordless handset.
You hear a confirmation beep and "ENTER SECURITY" appears on the display of the cordless handset.



4 Enter four-digit number (0001 to 9999) using the dialing keys of the cordless handset.

5 Press (PGM/VOL) on the cordless handset and (PROGRAM) on the base phone at the same time.
You hear a long confirmation beep and the phone stores the new code.
"Id=1234" appears on the display of the base phone.

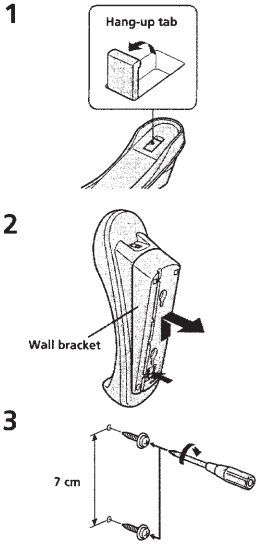
continued

Changing the digital security code (continued)

Note
Perform steps 2 to 5 within 20 seconds of "Id" appearing on the display of the base phone in step 1.

Tip
You can change the digital security code as often as desired.

Mounting the cordless handset charge cradle



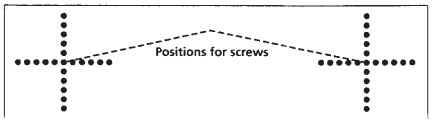
1 Raise the hang-up tab.

2 Remove the wall bracket.

3 Attach the supplied screws to a wall.

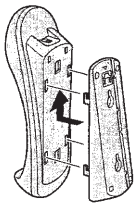
continued

Template for mounting the cordless handset charge cradle on a wall
To determine the positions for the screws, cut out the template below and use it as a guide. Consider the weight of the cordless handset charge cradle and the cordless handset when you choose the place to hang it.

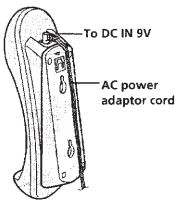


Mounting the cordless handset charge cradle (continued)

4



5

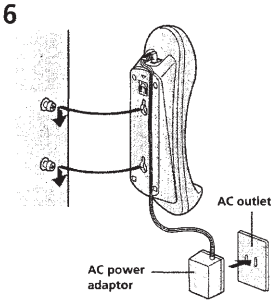


4 Attach the wall bracket to the cordless handset charge cradle.

5 Plug the AC power adaptor to the DC IN 9V jack and affix the cord into the groove.

6 Hook the cordless handset charge cradle to the screws and plug the AC power adaptor to an AC outlet.

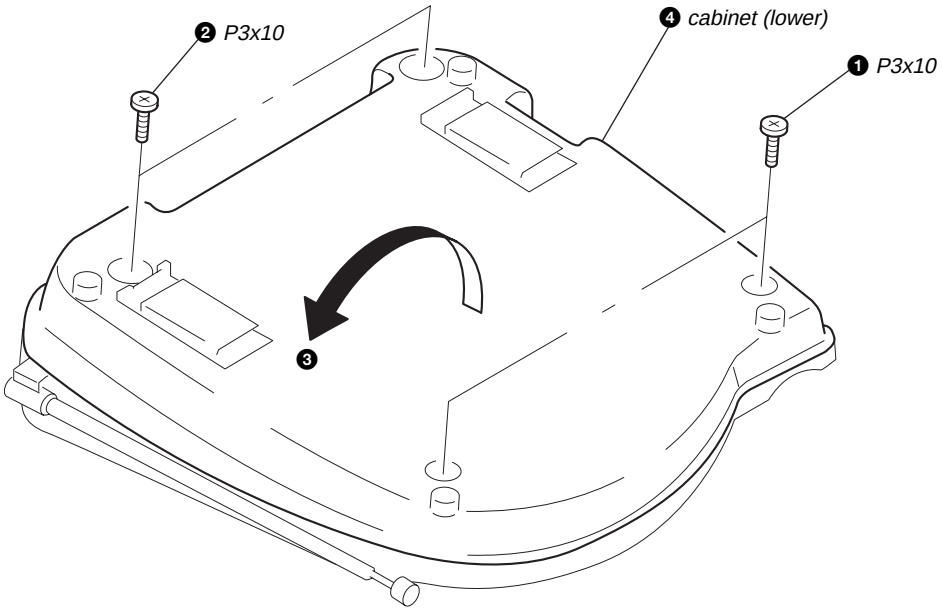
6



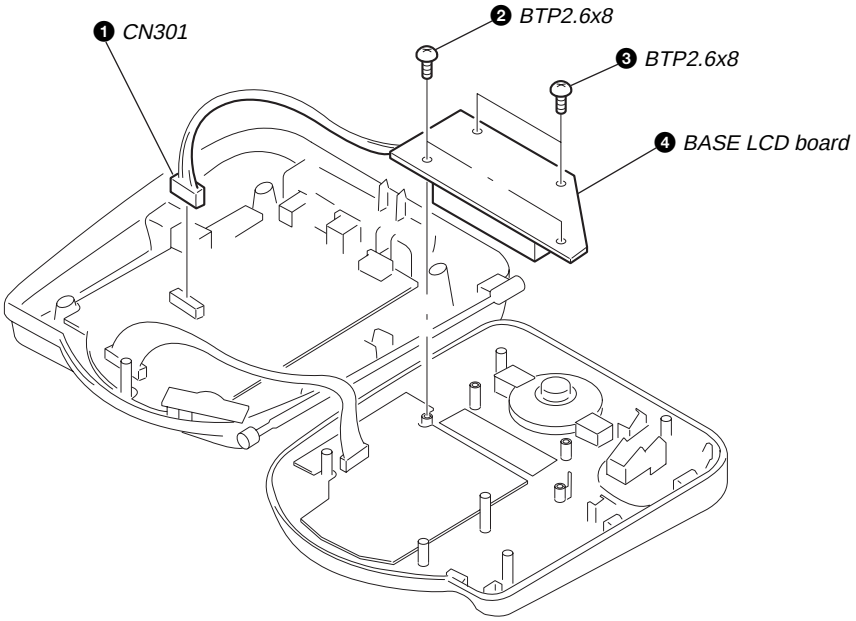
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

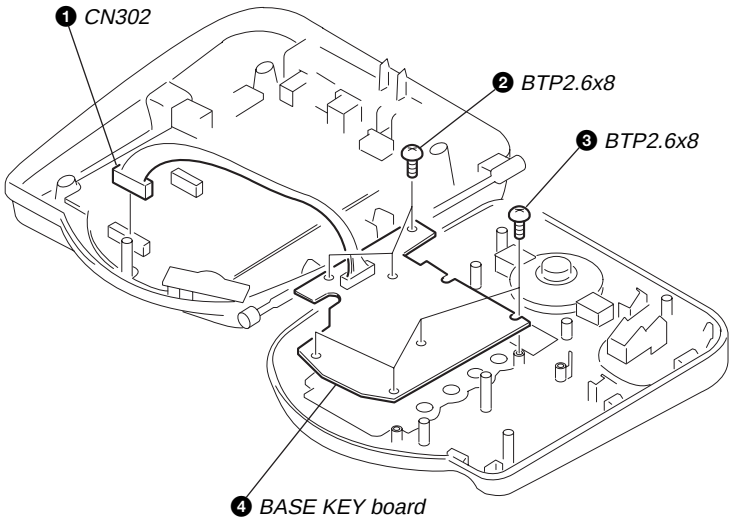
2-1. CABINET (LOWER)



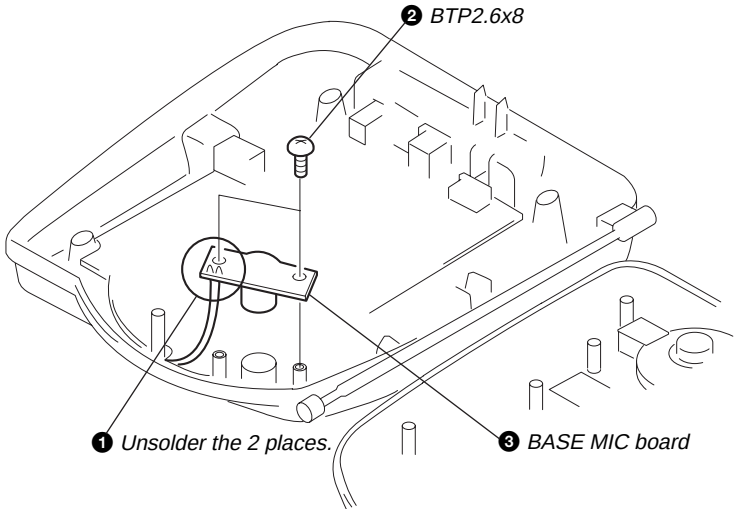
2-2. BASE LCD BOARD



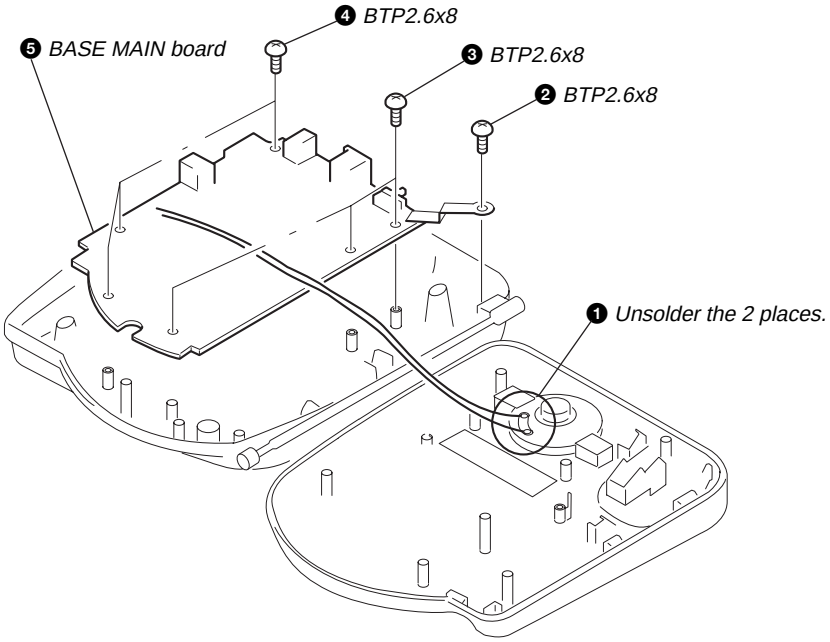
2-3. BASE KEY BOARD



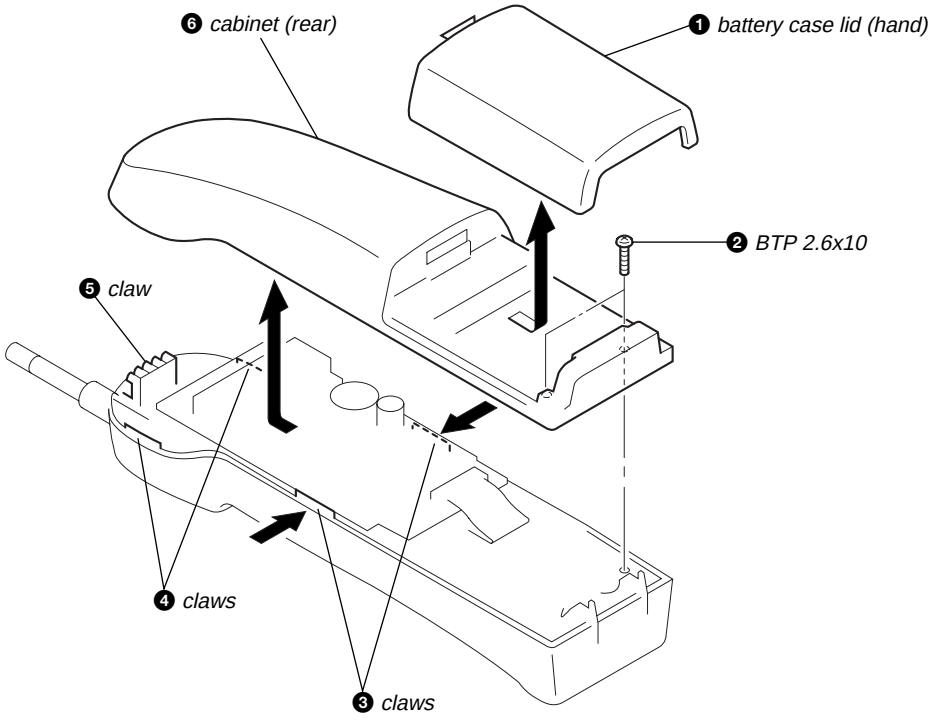
2-4. BASE MIC BOARD



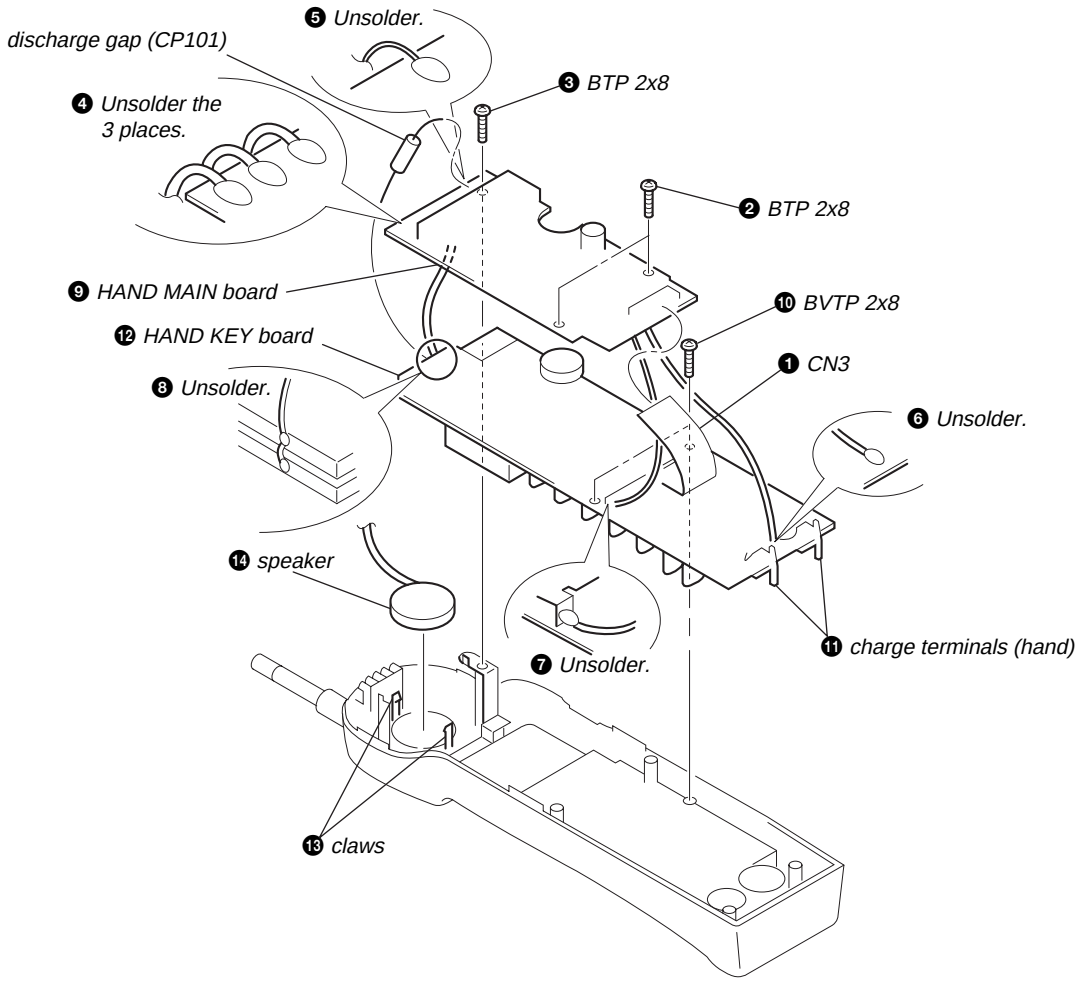
2-5. BASE MAIN BOARD



2-6. CABINET (REAR)



2-7. HAND MAIN BOARD



SECTION 3
TEST MODE

BASE PHONE SECTION

MANUAL TEST MODE

Set the Test Mode:

1. Set the DIAL MODE switch to "P" (pulse).
2. While pressing the INTERCOM key, insert the AC adaptor (Reset start).
3. With the INTERCOM key, still held down, switch the DIAL MODE switch "T" (tone) → "P" (pulse).
4. When the INTERCOM key is released, test mode starts.

Release the Test Mode:

1. Pull out the AC adaptor or turn off the power.

MACHINE TEST MODE

Set the Test Mode:

1. Connect between TP306 (TEST SW) and GND.
2. Set the Channel Setting terminal (See page 18.)
3. Turn on the power to start the test mode.

Release the Test Mode:

1. Pull out the AC adaptor or turn off the power.
2. Remove the short plug and turn on the power again.

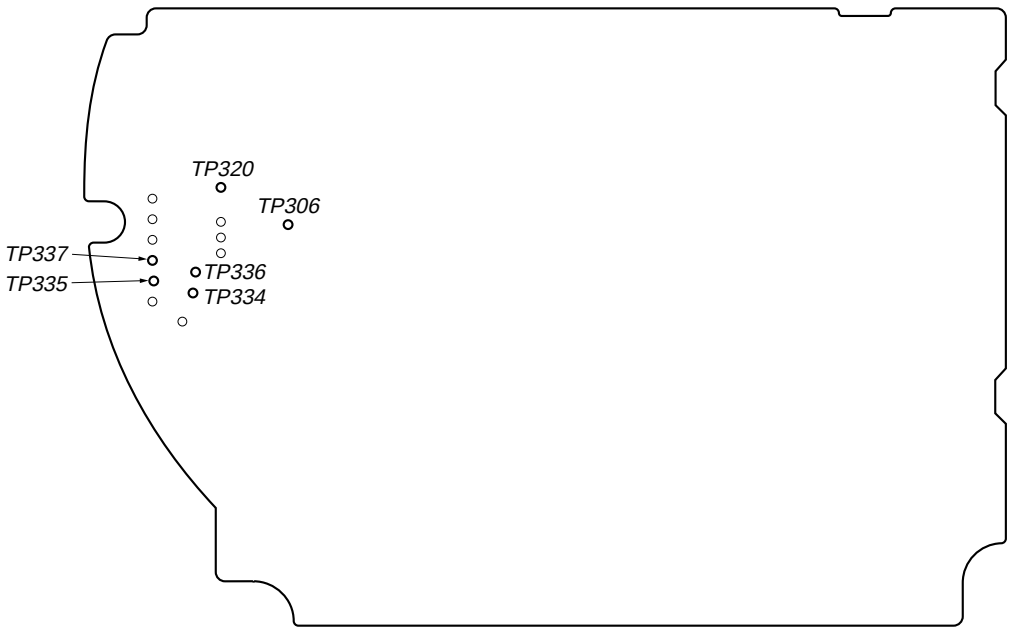
OPERATION AT START OF TEST MODE

- The ringer sounds for 500 msec.
- Setting of channel: CH1 for manual test mode and the Channel Setting terminal for machine test mode. (See page 18.)
- TX is set ON and the handset is allowed to call outside. RSSI is set to Hi sensitivity.
- Liquid crystal display panel is turned ON for 1 sec. and then the channel is displayed (for example, Ch1 CH1=01). LINE LED and back light are to be still ON. The pulse dial "0" is output once.

OPERATION IN TEST MODE

- In test mode, RSSI is continuously monitored. LINE LED is turned ON with RSSI (Low) and OFF without RSSI (High).
- In test mode, any key input is continuously monitored. Each key input causes the set to switch to the state as listed below.

– base main board (conductor side) –



Channel Setting:
During startup in machine test mode, make the following channel settings by loading the terminal input data.

Pin No. / Channel	54 TEST CLK (TP320)	44 COL3 (TP337)	43 COL2 (TP336)	42 COL1 (TP335)	41 COL0 (TP334)	TX frequency (MHz)	RX frequency (MHz)
CH1	L	L	L	L	H	43.720	48.760
CH2	L	L	L	H	L	43.740	48.840
CH3	L	L	L	H	H	43.820	48.860
CH4	L	L	H	L	L	43.840	48.920
CH5	L	L	H	L	H	43.920	49.020
CH6	L	L	H	H	L	43.960	49.080
CH7	L	L	H	H	H	44.120	49.100
CH8	L	H	L	L	L	44.160	49.160
CH9	L	H	L	L	H	44.180	49.200
CH10	L	H	L	H	L	44.200	49.240
CH11	L	H	L	H	H	44.320	49.280
CH12	L	H	H	L	L	44.360	49.360
CH13	L	H	H	L	H	44.400	49.400
CH14	L	H	H	H	L	44.460	49.460
CH15	L	H	H	H	H	44.480	49.500
CH16	H	L	L	L	L	46.610	49.670
CH17	H	L	L	L	H	46.630	49.845
CH18	H	L	L	H	L	46.670	49.860
CH19	H	L	L	H	H	46.710	49.770
CH20	H	L	H	L	L	46.730	49.875
CH21	H	L	H	L	H	46.770	49.830
CH22	H	L	H	H	L	46.830	49.890
CH23	H	L	H	H	H	46.870	49.930
CH24	H	H	L	L	L	46.930	49.990
CH25	H	H	L	L	H	46.970	49.970
TEST1	H	H	L	H	L	43.780	48.800
TEST2	H	H	L	H	H	43.890	48.970
TEST3	H	H	H	L	L	46.800	49.910
TEST4	H	H	H	L	H	46.900	49.950

Operations by Key Inputs:

Key	Description
VOLUME +	Increments the wireless channel by one.
VOLUME –	Decrements the wireless channel by one.
FLASH	Exits TEST mode.
1	Turns PLL's TX ON or OFF.
2	Displays the communication ID on LCD.
3	EEPROM Read/Write test. Writes data into EEPROM and reads it displaying the following if it is normal and "EP-Error" if abnormal: "123456789012" (pictogram for transmit regulation also displayed)
4	Key input test. The keys are to be input in the following order. Each key input produces a key touch tone. An incorrect key input in the order causes an error tone returning to the test mode idle state. Once all the keys are normally input, a completion sound is produced returning to the test mode idle state. [PROGRAM]→[ONE TOUCH DIAL A]→[ONE TOUCH DIAL B]→[SPEED DIAL]→[1]→[2]→[3]→[4]→[5]→[6]→[7]→[8]→[9]→[TONE ✻]→[0]→[#]→[VOLUME +]→[VOLUME –]→[REDIAL/PAUSE]→[FLASH]→[INTERCOM]→[HOLD]→[SPEAKERPHONE]
5	Forces the RSSI sensitivity into LOW level.
6	Telegram receive test. Waits to receive ID=AAAA and DATA=AAA. Sends back the same data as the received telegram.
7	Telegram transmission test. Continuously sends ID=AAAA and DATA=AAA. Press [7] key again stops to transmit data returning to test mode idle state.
8	Forcedly turns HI-CUT-MUTE ON or OFF.
9	Manually stores the communication ID. After "ID=" is displayed, enter a four-digit communication ID in hexadecimal format. The key assignments are A=VOLUME +, B=VOLUME –, C=REDIAL/PAUSE, D=FLASH, E=INTERCOM and F=HOLD keys. Use [SPEAKERPHONE] key to complete the input.
0	Displays the destination and channel.
PROGRAM + HOLD	Clears all EEPROM except for the communication ID. "EP-CLEAr" is displayed.
PROGRAM + REDIAL/PAUSE	Sets PIN (ID for transmit regulation) to 0000. "PId-CLEAr" is displayed.
SPEAKERPHONE	Speakerphone intercom talk state.
INTERCOM	Local handset intercom talk state.

HANDSET SECTION

MANUAL TEST MODE

Set the Test Mode:

1. Enter the test mode by pressing [*] key while pressing [1] and [TALK] keys when in idle condition.
   (Key operation [*] → [1] → [TALK])

Release the Test Mode:

1. Press the [OFF] key.
2. Turn off the power. (Remove the battery and replace them.)

MACHINE TEST MODE

Set the Test Mode:

1. Connect between TP316 (TEST I/O) and GND.
2. Set the Channel Setting terminal. (See page 20.)
3. Turn on the power to start the test mode.

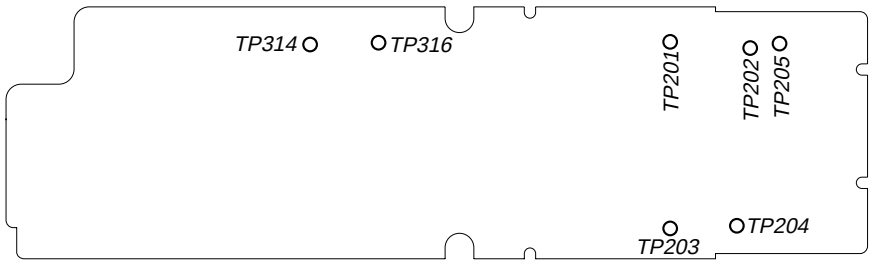
Release the Test Mode:

1. Turn off the power.
2. Remove the short plug and turn on the power.

OPERATION AT START OF TEST MODE

- The ringer sounds for 500 msec.
- Setting of channel: CH1 for manual test mode and the Channel Setting terminal for machine test mode. (See page 20.)
- TX is set ON and the handset is allowed to call outside. RSSI is set to Hi sensitivity.
- Liquid crystal display panel is turned ON for 1 sec. and then the channel is displayed (for example, Ch1 CH1=01). Back light is to be still ON.

– hand main board (side B) –



Channel Setting:

During startup in machine test mode, make the following channel settings by loading the terminal input data.

Pin No. / Channel	45 ROW5 (TP205)	52 COL4 (TP204)	51 COL3 (TP203)	50 COL2 (TP202)	49 COL1 (TP201)	TX frequency (MHz)	RX frequency (MHz)
CH1	L	L	L	L	H	48.760	43.720
CH2	L	L	L	H	L	48.840	43.740
CH3	L	L	L	H	H	48.860	43.820
CH4	L	L	H	L	L	48.920	43.840
CH5	L	L	H	L	H	49.020	43.920
CH6	L	L	H	H	L	49.080	43.960
CH7	L	L	H	H	H	49.100	44.120
CH8	L	H	L	L	L	49.160	44.160
CH9	L	H	L	L	H	49.200	44.180
CH10	L	H	L	H	L	49.240	44.200
CH11	L	H	L	H	H	49.280	44.320
CH12	L	H	H	L	L	49.360	44.360
CH13	L	H	H	L	H	49.400	44.400
CH14	L	H	H	H	L	49.460	44.460
CH15	L	H	H	H	H	49.500	44.480
CH16	H	L	L	L	L	49.670	46.610
CH17	H	L	L	L	H	49.845	46.630
CH18	H	L	L	H	L	49.860	46.670
CH19	H	L	L	H	H	49.770	46.710
CH20	H	L	H	L	L	49.875	46.730
CH21	H	L	H	L	H	49.830	46.770
CH22	H	L	H	H	L	49.890	46.830
CH23	H	L	H	H	H	49.930	46.870
CH24	H	H	L	L	L	49.990	46.930
CH25	H	H	L	L	H	49.970	46.970
TEST1	H	H	L	H	L	48.800	43.780
TEST2	H	H	L	H	H	48.970	43.890
TEST3	H	H	H	L	L	49.910	46.800
TEST4	H	H	H	L	H	49.950	46.900

Machine Test Mode Input / Output:

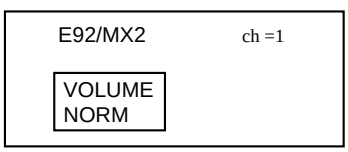
1. Input (Input ports for other than main tasks)

Pin Name	Pin No.	Function	Logic
ROW5 (TP205)	45	Setting the CH (channel)	Refer to channel setting
COL4 (TP204)	52		
COL3 (TP203)	51		
COL2 (TP202)	50		
COL1 (TP201)	49		
TEST I/O (TP316)	36	Startup of the test mode.	H : Start, L : No start

2. Output (Output ports for other than main tasks)

Pin Name	Pin No.	Function	H Logic	L Logic
TALK LED (TP314)	40	Various input/output monitor output (default : RSSI (H) detection).	No detection	Detection
LCD/KEY LED (D302 to 308)	39	During test mode : All light lit However, does not include measurment of consumption current.	No light	Light

<Display example of LCD>



Key Processing (Setting the Manual Test Mode) :

Key	Function	TX	RX RF	RX AF	LCD	MIC	KEY Light LCD Light	MUTE HICUT	VOL	DATA OUT-PUT	RSSI SENS	
Initial TEST mode	TX & RX	O	O	O	O	O	O	×	NORM	×	HI	
TALK	TX ON/OFF	O/×	O	O	O	O	–	–	–	×	–	
OFF	TEST MODE OFF	×	×	×	×	×	×	×	×	×	×	
1	RX ON/OFF	×	O	O/×	O/×	×	–	–	–	×	–	
2	TX & RX OFF	×	×	×	O	×	–	–	–	×	–	
3	EEPROM CHECK	–	–	–	O	–	–	–	–	×	–	2)
4	KEY CHECK	–	–	–	O	–	–	–	–	×	–	1)
5	RSSI LOW SET	–	–	–	O	–	–	–	–	×	LOW	
6	DATA TX	O/×	–	–	O	–	–	–	–	O/×	–	4)
7	LIGHTED KEY OFF	–	–	–	O	–	×	–	–	×	–	5)
8	ID CHECK	–	–	–	O	–	–	–	–	×	–	
9	ID WRITE	–	–	–	O	–	–	–	–	×	–	3)
*		–	–	–	–	–	–	–	–	–	–	
0		–	–	–	–	–	–	–	–	–	–	
#		–	–	–	–	–	–	–	–	–	–	
REDIAL/PAUSE		–	–	–	–	–	–	–	–	–	–	
FLASH		–	–	–	–	–	–	–	–	–	–	
CHANNEL	CH + 1	–	–	–	–	–	–	–	–	–	–	
CHANNEL + TALK	EEPROM CLEAR	×	×	×	O	×	×	–	–	×	–	6)
INTERCOM		–	–	–	–	–	–	–	–	–	–	
PGM/VOL	VOL HI/LOW	–	–	–	O	–	–	–	HI/LOW	–	–	
HOLD	HI-CUT ON/OFF	–	–	–	O	–	–	O	–	–	–	

O : ON, × : OFF

- When receiving data, the set is put in the same state as the intermittent reception state during normal wait.
- The channel is counted up each time the CHANNEL key is pressed. When the channel reaches 29 ch, then it returns to 1 ch.
- "Channel Setting", "SIGOUT Control" and "Power Control" can be separately set in their state.

1) Key input test. The keys are to be input in the following order. Each key input produces a key touch tone. An incorrect key input in the order causes an error tone returning to the test mode idle state. Once all the keys are normally input, a completion sound is produced returning to the test mode idle state.
[TALK]→[OFF]→[1]→[2]→[3]→[4]→[5]→[6]→[7]→[8]→[9]→[TONE *]→[0]→[#]→[REDIAL/PAUSE]→[FLASH]→[PGM/VOL]→[HOLD]→[CHANNEL]→[INTERCOM]
2) EEPROM Read/Write test. Writes specific data into EEPROM and reads it displaying the following data on the LCD if it is normal and "EEPROM NG" if abnormal:
"SONY CORPORATION"
"1234567890" (character also displayed if any)
3) Manually stores the communication ID. After "ID=" is displayed, enter a four-digit communication ID in hexadecimal format. The key assignments are A=REDIAL/PAUSE, B=FLASH, C=PGM/VOL, D=HOLD, E=CHANNEL and F=INTERCOM keys. Use [TALK] key to complete the input.
4) TALK LED is turned on when data is received.
5) TALK LED is turned on when RSSI is present or at LOW level.
6) ID is excluded.

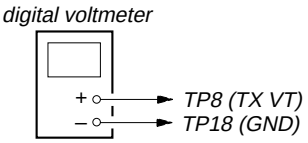
SECTION 4
ELECTRICAL ADJUSTMENTS

BASE PHONE SECTION

Note:
- Apply 9V dc from regurated DC power supply.
- Perform the adjustment at T3CH (28CH : 49.910 MHz) as a rule.
- Set to base unit manual test mode. (Refer to page 17.)
- Switch position :
  S301 (DIAL MODE) : P (pulse)

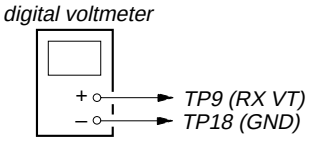
TX SECTION ADJUSTMENT
- The resistor (50 Ω) connected TP1 to TP3 (GND). (Only TX section adjustment)

TX VT Adjustment
Setting :



Procedure :
1. The digital voltmeter connected TP8 (TX VT) to TP18 (GND).
2. Adjust the L3 for 2.2 ± 0.1 V reading on the digital voltmeter.

RX VT Adjustment
Setting :

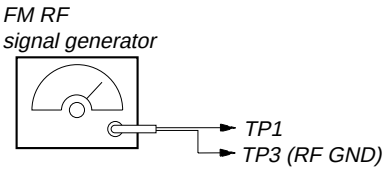


Procedure :
1. The digital voltmeter connected TP9 (RX VT) to TP18 (GND).
2. Adjust the L4 for 2.8 ± 0.1 V reading on the digital voltmeter.

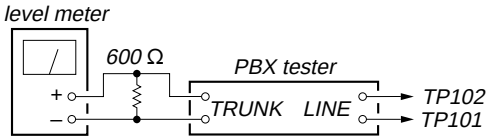
RX SECTION ADJUSTMENT

RX DISCRI Adjustment
Note:
- Perform the adjustment at T3CH (28CH : 49.910 MHz) as a rule.

Setting :



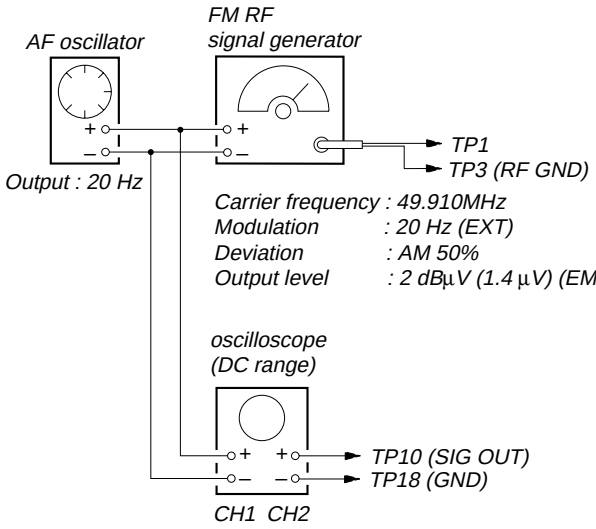
Carrier frequency : 49.910 MHz
Modulation : 1 kHz
Deviation : FM 3 kHz
Output level : 60 dBμV (1 mV) (EMF)



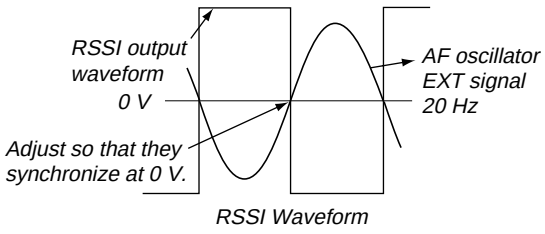
Procedure :
1. Adjust the FL4 for the maximam reading on the level meter.

RSSI Hi Adjustment
Note:
- Perform the adjustment at T3CH (28CH : 49.910 MHz) as a rule.

Setting :



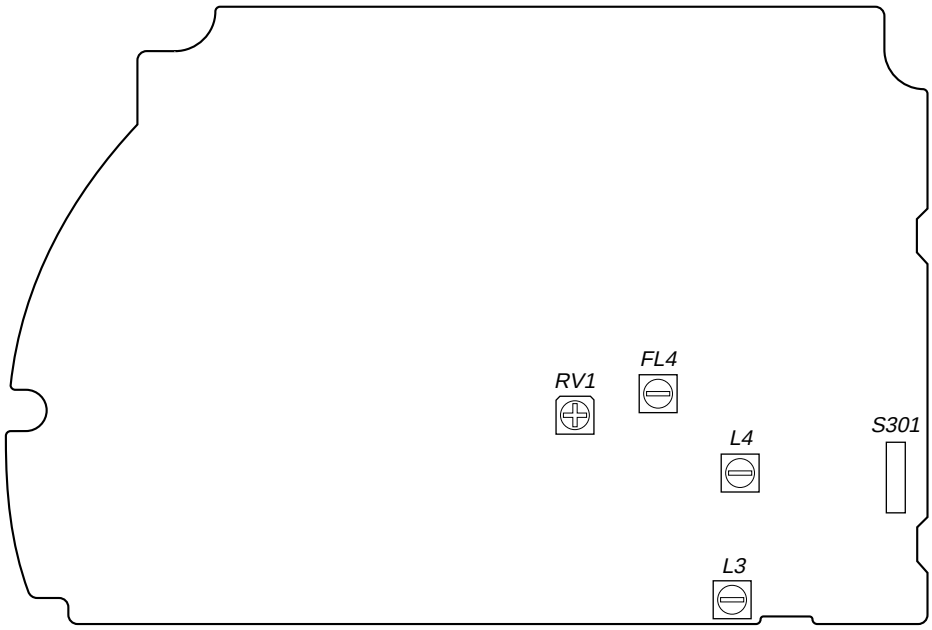
Procedure :
1. Use the oscilloscope to confirm the FM RF signal generator input (AF) signal waveform and RSSI signal, and use the RV1 so that they are synchronized (duty is synchronized).



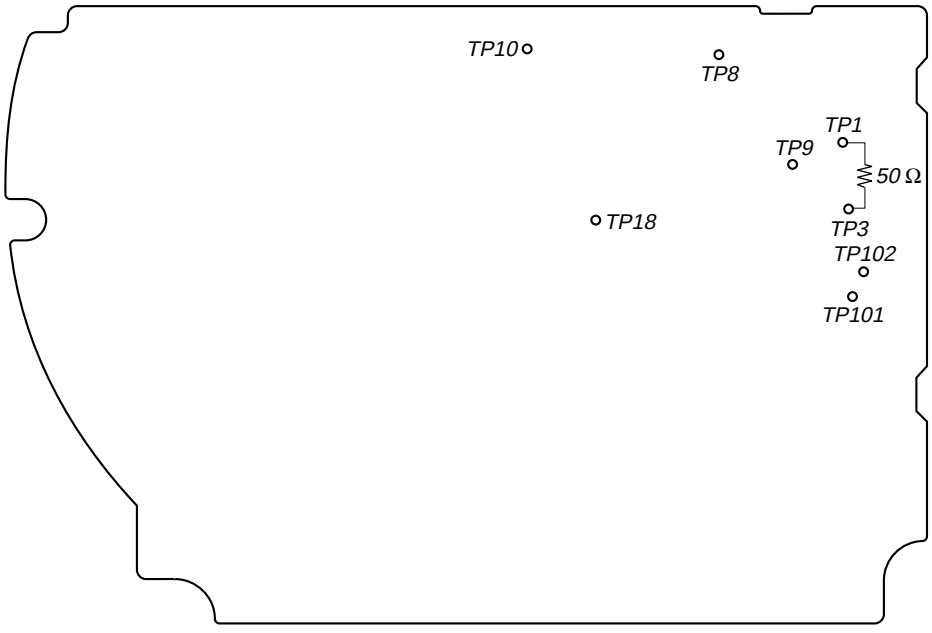
Adjustment Location : base main board (See page 23.)

Adjustment Location :

– base main board (component side) –



– base main board (conductor side) –

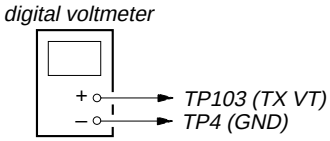


HANDSET SECTION

Note:
- Apply 3.6 V dc from regurated DC power supply.
- Perform the adjustment at T1CH (26CH : 43.780 MHz) as a rule.
- Set to handset manual test mode. (Refer to page 19.)

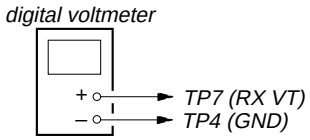
TX SECTION ADJUSTMENT

TX VT Adjustment
Setting :



Procedure :
1. The digital voltmeter connected TP103 (TX VT) to TP4 (GND).
2. Adjust the L101 for 1.8 ± 0.1V reading on the digital voltmeter.

RX VT Adjustment
Setting :

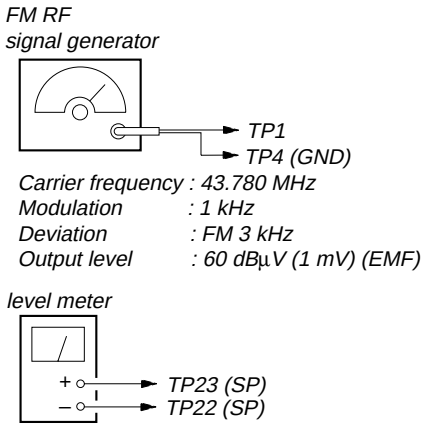


Procedure :
1. The digital voltmeter connected TP7 (RX VT) to TP4 (GND).
2. Adjust the L3 for 2.5 ± 0.1 V reading on the digital voltmeter.

RX SECTION ADJUSTMENT

RX DISCRI Adjustment
Note:
- Perform the adjustment at T1CH (26CH : 43.780 MHz) as a rule.

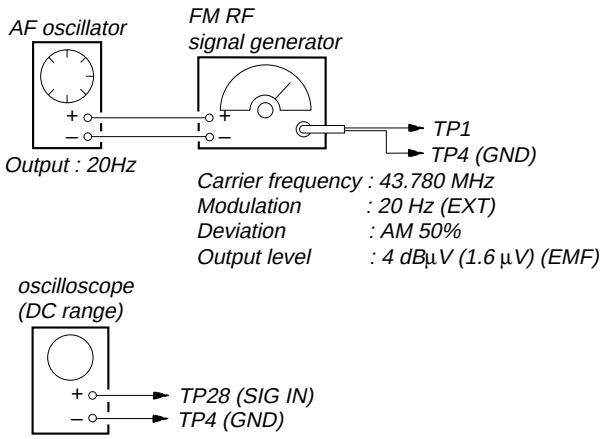
Setting :



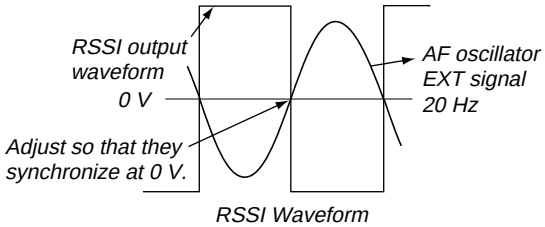
Procedure :
1. Adjust the L4 for the maximam reading on the level meter.

RSSI Hi Adjustment
Note:
- Perform the adjustment at T1CH (26CH : 43.780 MHz) as a rule.

Setting :



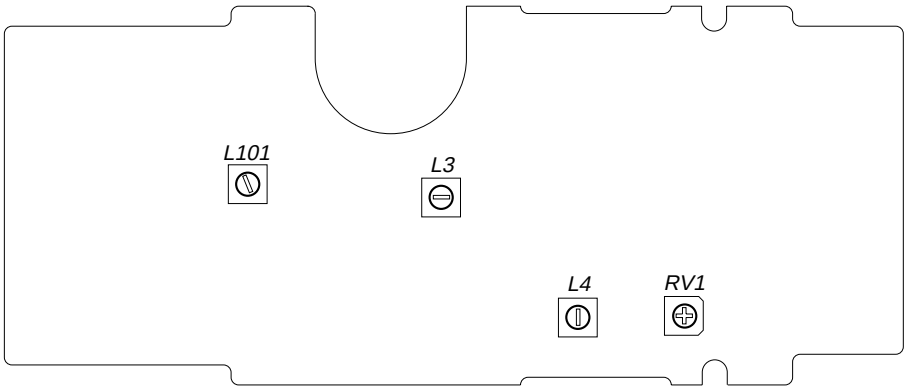
Procedure :
1. Use the oscilloscope to confirm the FM RF signal generator input (AF) signal waveform and RSSI signal, and use the RV1 so that they are synchronized (duty is synchronized).



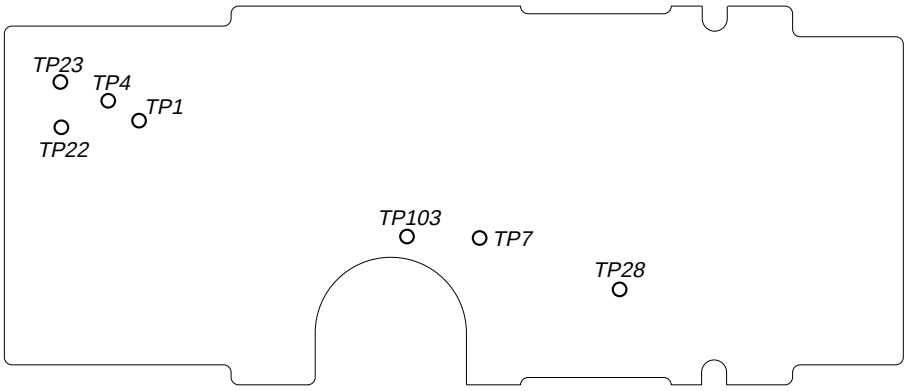
Adjustment Location : hand main board (See page 25.)

Adjustment Location :

– hand main board (side A) –



– hand main board (side B) –



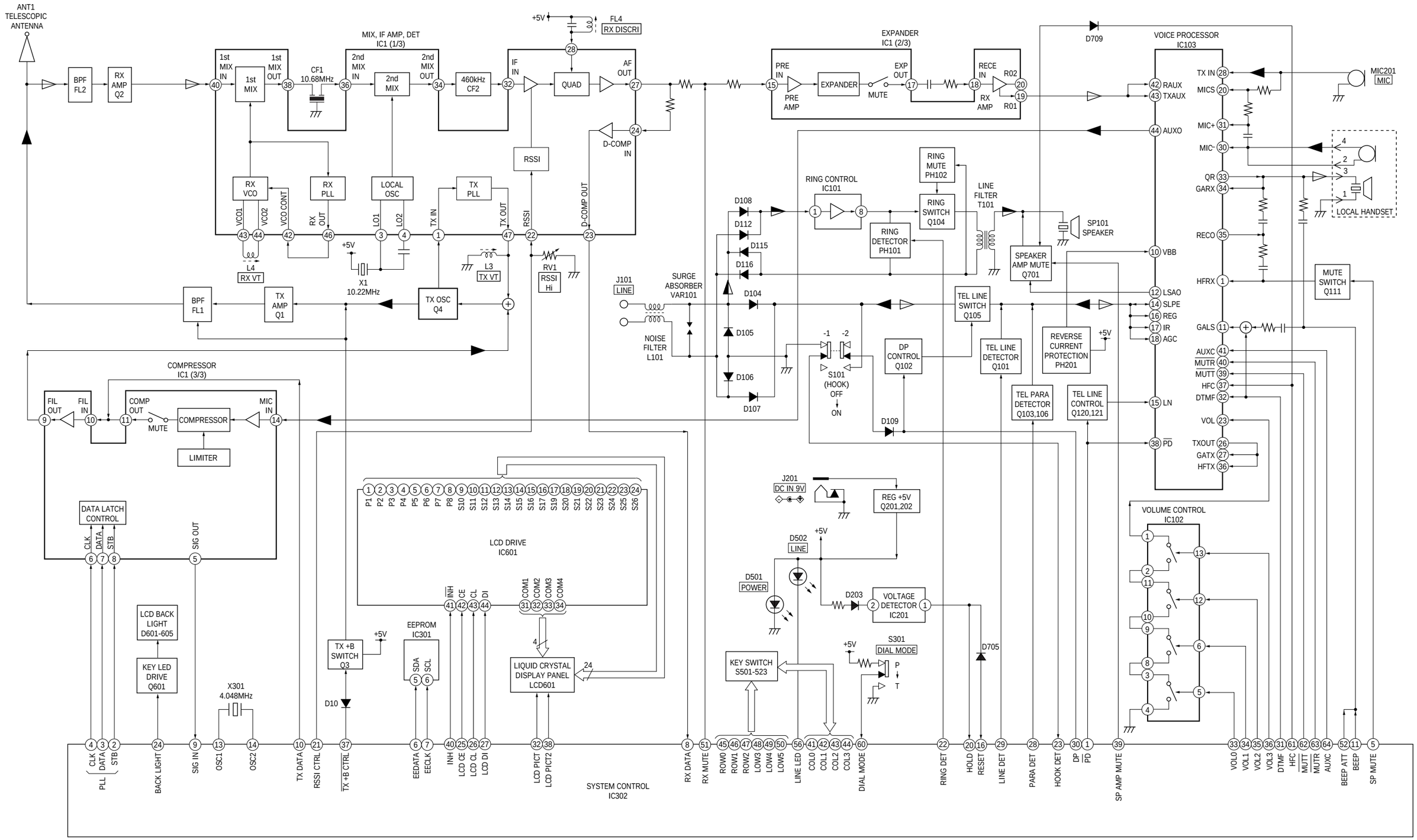
SECTION 5
DIAGRAMS

5-1. IC PIN DESCRIPTION

• IC401 LC662716A-4L38 (SYSTEM CONTROL) (HAND KEY BOARD)

Pin No.	Pin Name	I/O	Pin Description
1	BEEP-ATT	O	Beep volume High/Low control output (L: High)
2	TX-DATA	O	RF transmission data output
3	RINGER	O	Beep output
4	VSS	—	Ground
5	OSC1	—	Crystal oscillation input (4.048 MHz)
6	OSC2	—	Crystal oscillation output (4.048 MHz)
7	VDD	—	Power supply pin
8	RESET	—	Reset input
9	BAT-IN	I	Battery detection input
10	PE1	—	Not used. (Fixed at L in this set.)
11	TEST	—	Not used. (Fixed at L in this set.)
12	HOLD	I	Input for intermittent. (CR external)
13 – 16	ACT4	O	Output for intermittent reception control. (L: at operation)
17	CHARGE-IN	I	Charge detection input (H: in charge)
18	BAT-LOW-IN	I	Battery low-voltage detection input
19	—	—	Not used. (Fixed at H in this set.)
20	RX-DATA-IN	I	RF reception data input
21	CTRL-STB	O	PLL control standby output
22	CTRL-DATA	O	PLL control data output
23	CTRL-CLK	O	PLL control clock output
24	SIG-STATE	I	RSSI/LOCK signal input (L: RSSI, H: LOCK)
25	TX+B-CTRL	O	TX power control output
26	HICUT-MUTE	O	High band noise mute output
27	RSSI-H/L	O	RSSI sens select output (L: Low sens)
28	VOL-CTRL	O	VOLUME HIGH/NORM select output
29 – 32	P80 – 83	O	Not used. (Fixed at H in this set.)
33	MODEL0	I	Destination model select input 0 (Fixed at L in this set.)
34	MODEL1	I	Destination model select input 1 (Fixed at L in this set.)
35	TEST-CLK	I/O	At initial ID writing, clock input/output.
36	TEST-I/O	I/O	At TEST start-up or ID writing, data input/output. (L: TEST start-up)
37, 38	PA0, 1	—	Not used. (Fixed at L in this set.)
39	LIGHTS	O	Key & LCD back light LED control output
40	TALK-LED	O	TALK LED control output
41 – 45	KEY-OUT0 – 4	O	Key matrix output
46	JOG-EN1	I	JOG input
47	JOG-PUSH	I	JOG input
48	JOG-EN2	I	JOG input
49 – 52	KEY-RETURN0 – 3	I	Key matrix input
53	LCD+B-CTRL	O	LCD power control output (L: at operation)
54	LCD-E	O	LCD-R/W trigger output
55	LCD-R/W	O	LCD-R/W control output
56	LCD-RS	O	LCD register select signal output
57 – 60	LCD-DB4 – 7	O	LCD-DATA output
61	EEPROM-WP	O	EEPROM write protect output
62	EEPROM-SDA	I/O	EEPROM data input/output
63	EEPROM-SCL	O	EEPROM clock output
64	MIC ON/OFF	O	MIC ON/OFF control output (L: OFF)

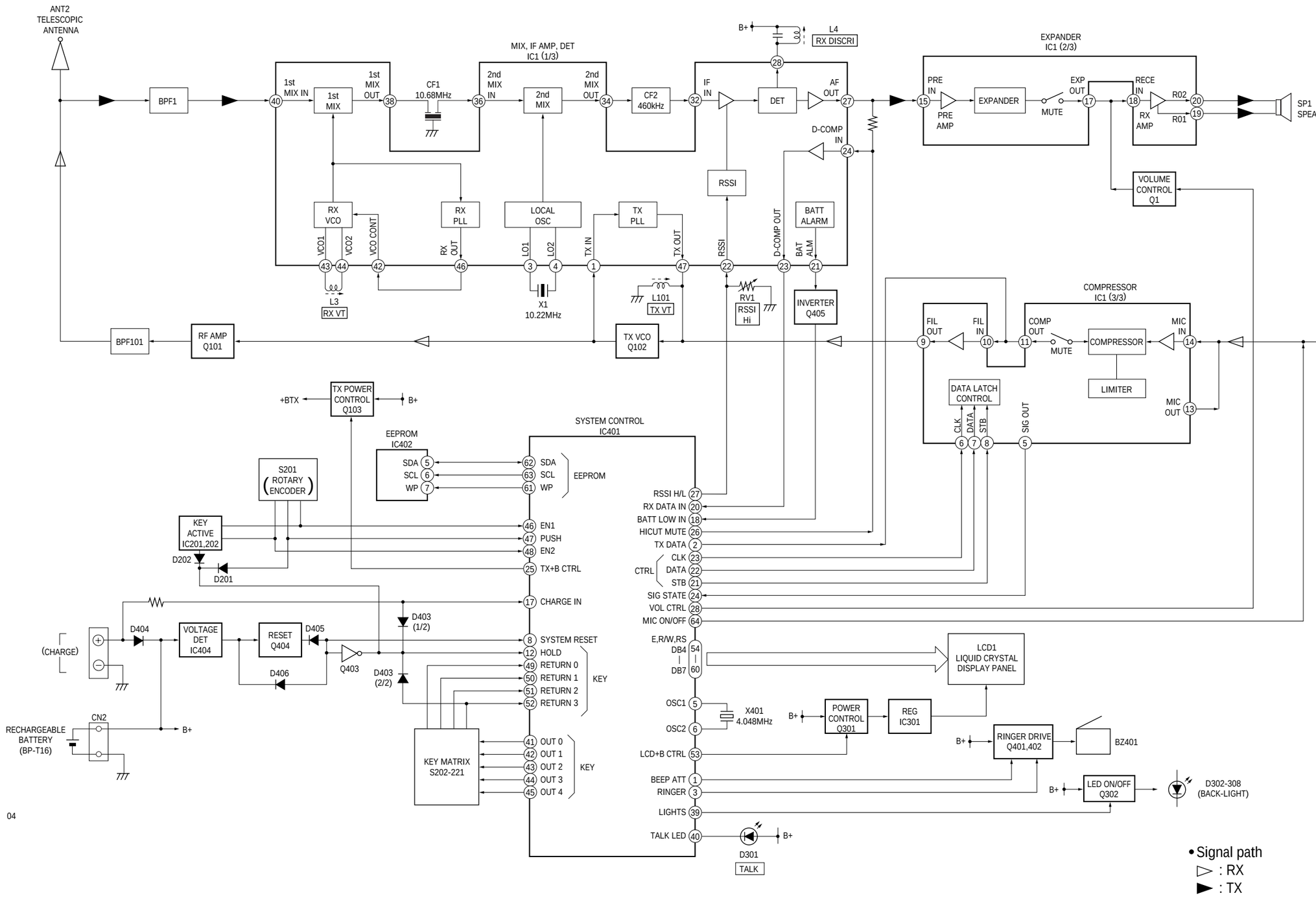
5-2. BLOCK DIAGRAM — BASE PHONE SECTION —



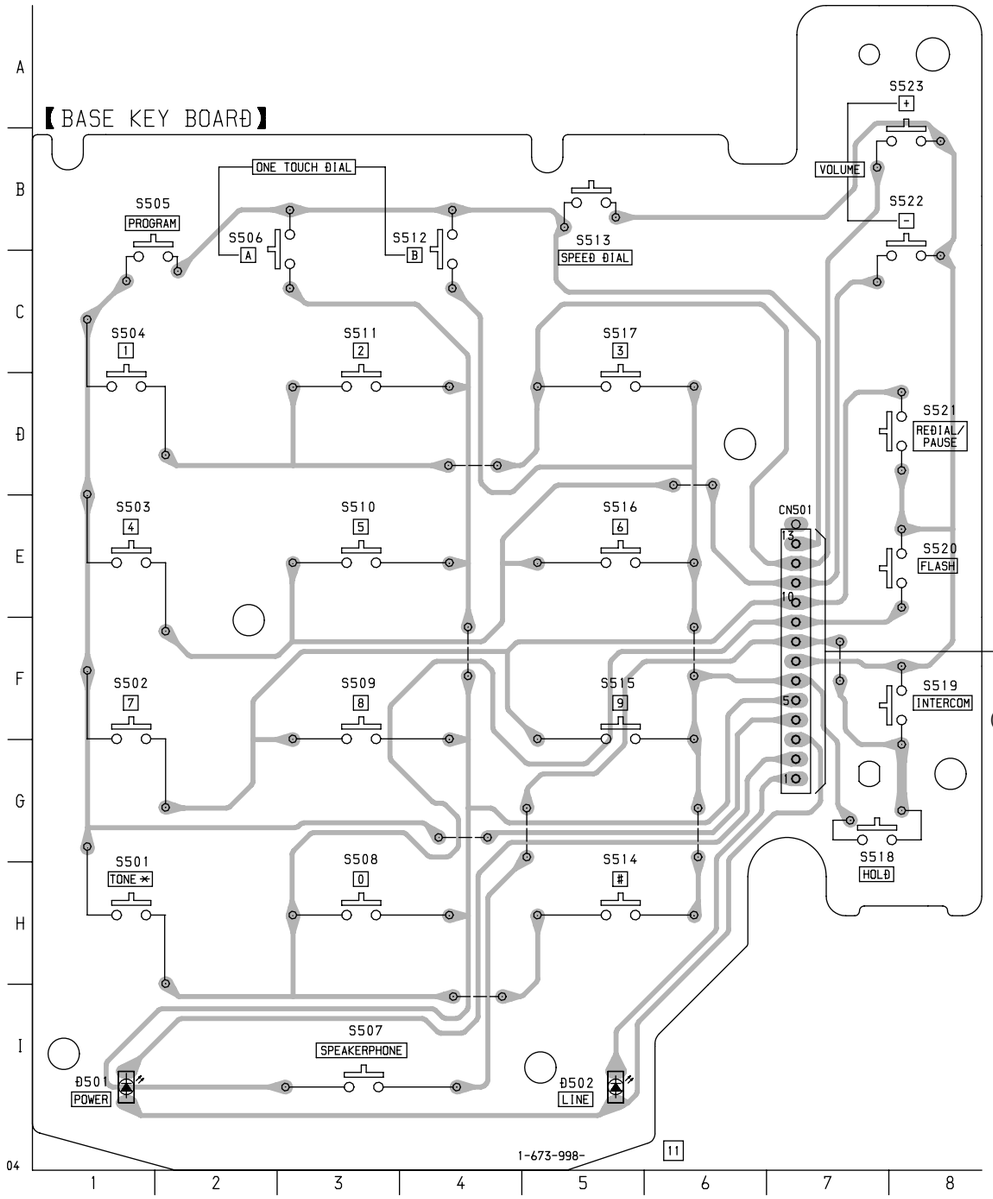
- Signal path
  - ▷ : RX (From TEL LINE)
  - ▶ : TX (To TEL LINE)
  - ▻ : BELL

04

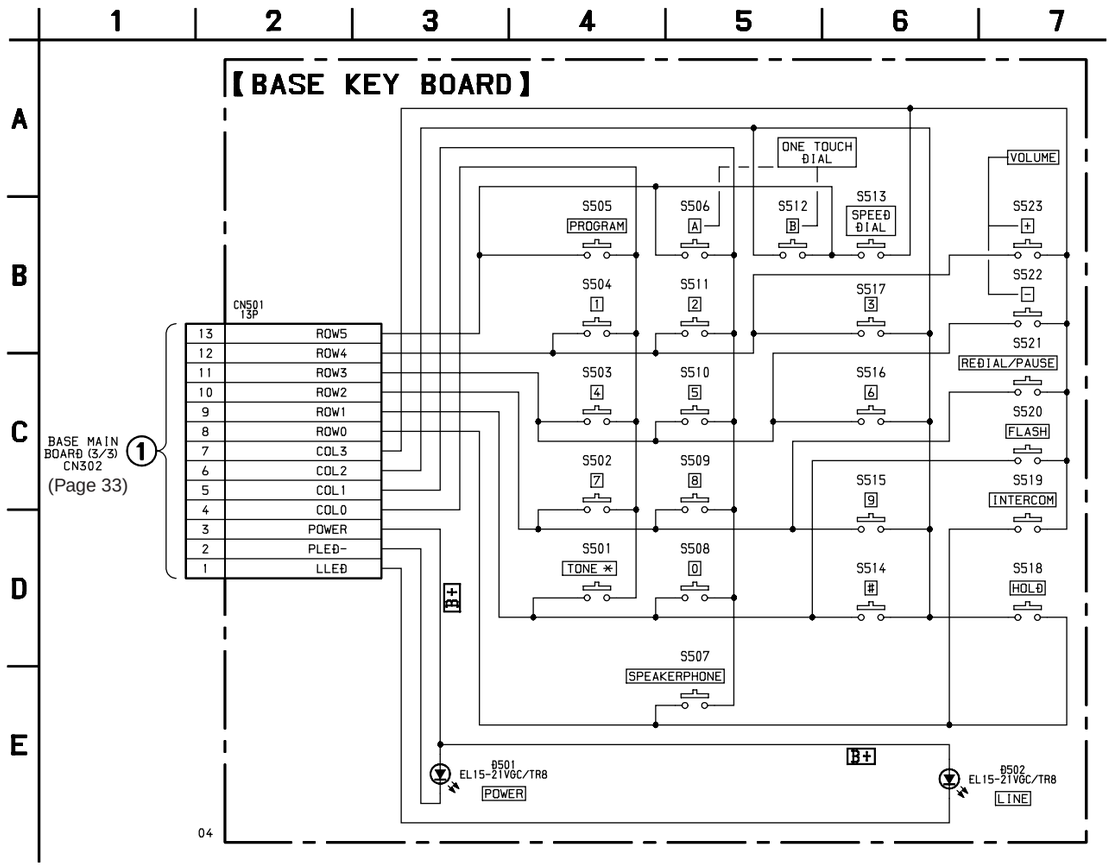
5-3. BLOCK DIAGRAM — HANDSET SECTION —



5-4. PRINTED WIRING BOARD — BASE KEY SECTION —



5-5. SCHEMATIC DIAGRAM — BASE KEY SECTION —



Note on Schematic Diagram:
- ▭ : panel designation.
- B + : B+ Line.

- **Semiconductor Location**

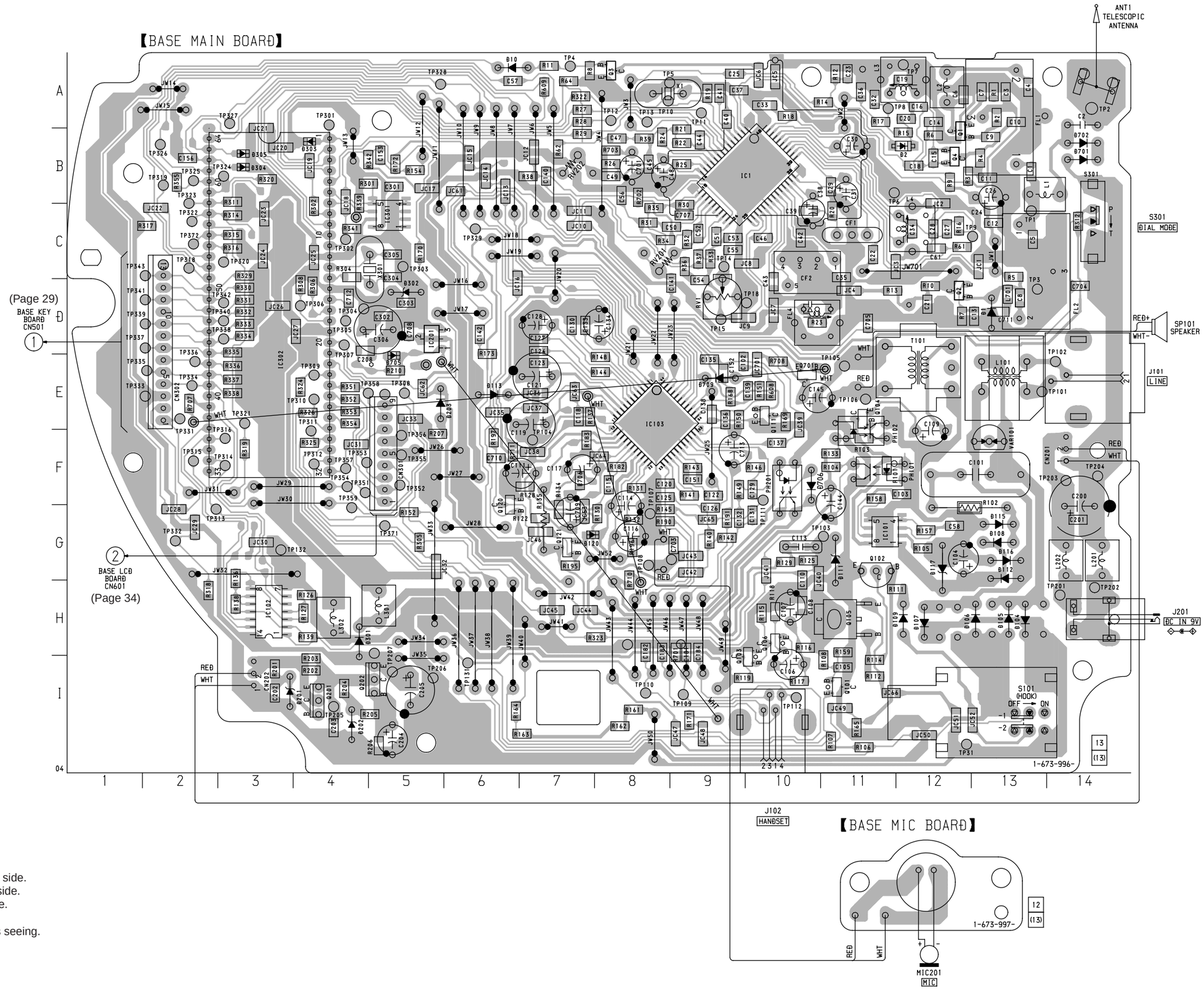
Ref. No.	Location
D501	I-1
D502	I-5

Note on Printed Wiring Board:
- ○——— : parts extracted from the component side.
- ○– – –○ : carbon pattern
- ▒▒▒ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

5-6. PRINTED WIRING BOARDS — BASE MAIN SECTION —

- **Semiconductor Location**

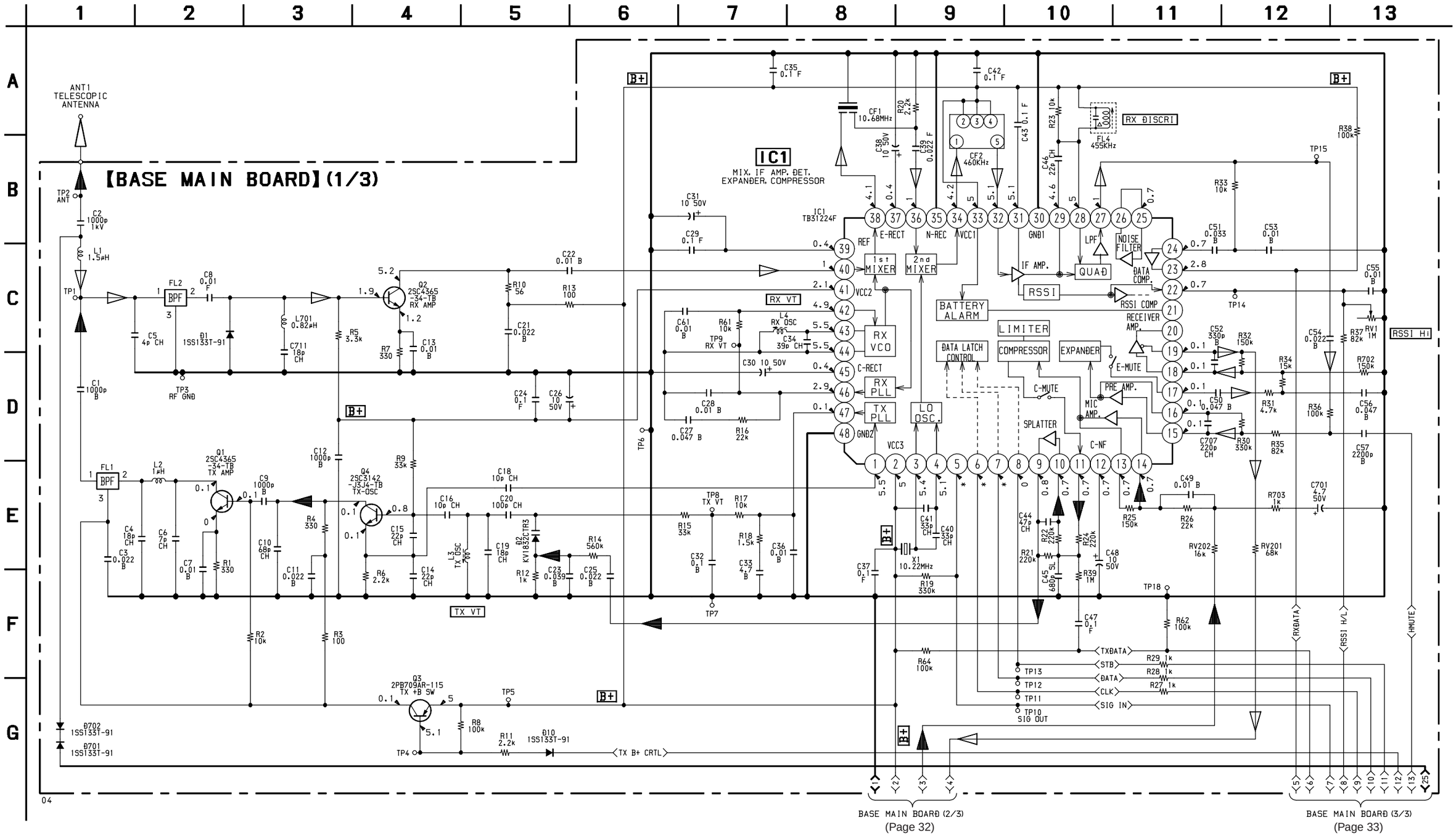
Ref. No.	Location
D1	D-13
D2	B-12
D10	A-6
D104	H-13
D105	H-13
D106	H-13
D107	H-12
D108	G-13
D109	H-12
D111	G-11
D112	G-13
D113	E-6
D115	G-13
D116	G-13
D117	G-12
D120	G-8
D201	I-3
D202	I-4
D203	E-5
D301	H-4
D302	D-5
D303	B-4
D304	B-3
D305	B-3
D701	B-14
D702	B-14
D705	E-5
D706	F-10
D709	E-9
IC1	B-9
IC101	G-11
IC102	H-3
IC103	E-8
IC201	D-5
IC301	C-5
IC302	D-3
PH101	F-11
PH102	F-11
PH201	F-10
Q1	B-12
Q2	D-12
Q3	A-8
Q4	B-12
Q101	I-11
Q102	G-11
Q103	H-9
Q104	E-11
Q105	H-11
Q106	H-10
Q111	E-10
Q120	F-6
Q121	G-7
Q201	I-4
Q202	I-5
Q701	E-10



Note:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

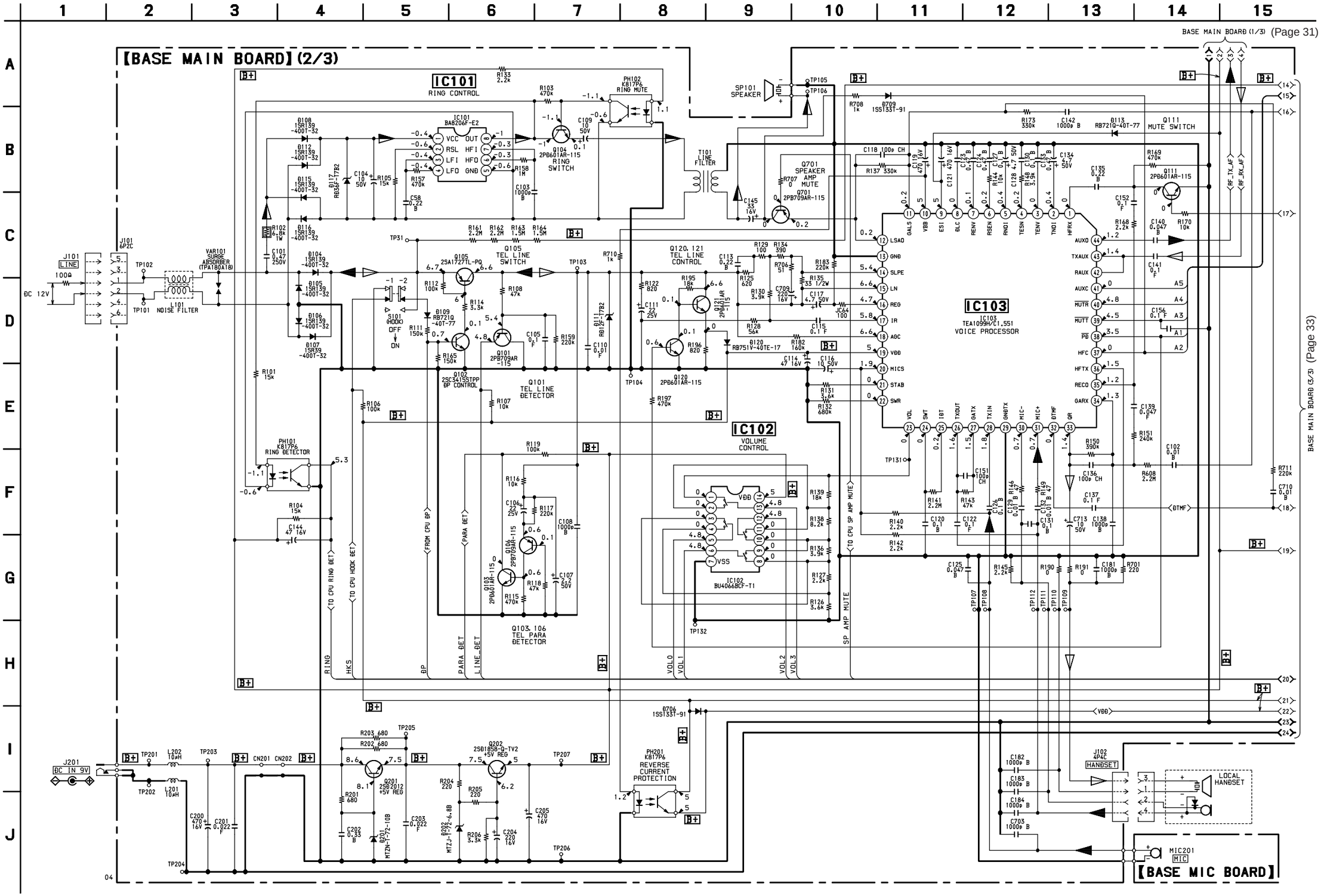
5-7. SCHEMATIC DIAGRAM — BASE MAIN (1/3) SECTION —



Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 12 V and fed with regulated dc power supply from J101 with 100 Ω in series.
- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : TALK
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ▷ : RX (from TEL LINE)
  ▶ : TX (to TEL LINE)

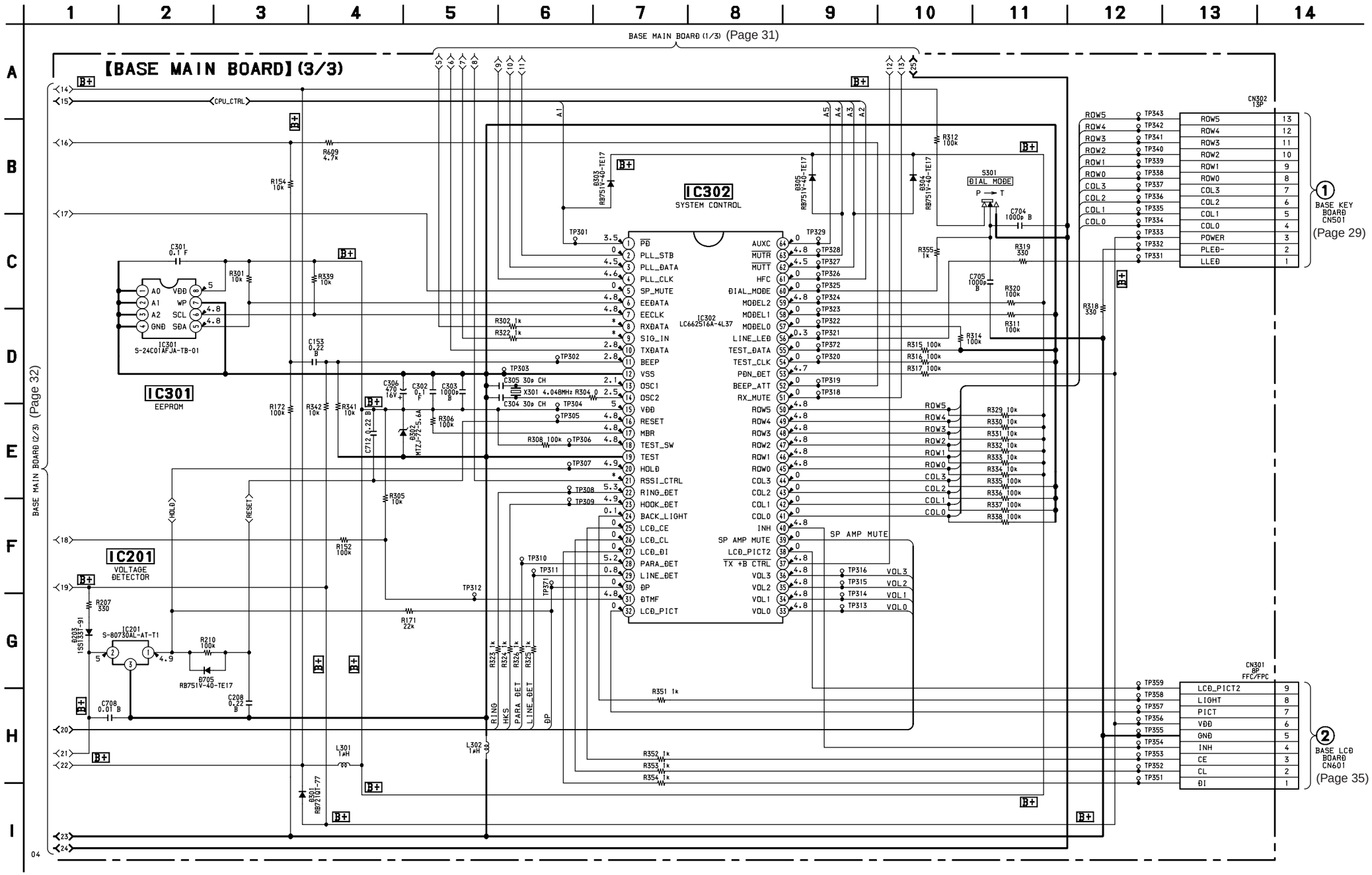
5-8. SCHEMATIC DIAGRAM — BASE MAIN (2/3) SECTION — • Refer to page 40 for IC Block Diagrams.



Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : nonflammable resistor.
- : panel designation.
- B+ : B+ Line.
- Power voltage is dc 12 V and fed with regulated dc power supply from J101 with 100 Ω in series.
- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : TALK
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : RX (from TEL LINE)
  : TX (to TEL LINE)
  : bell

5-9. SCHEMATIC DIAGRAM — BASE MAIN (3/3) SECTION — • Refer to page 41 for IC Block Diagrams.



Note:

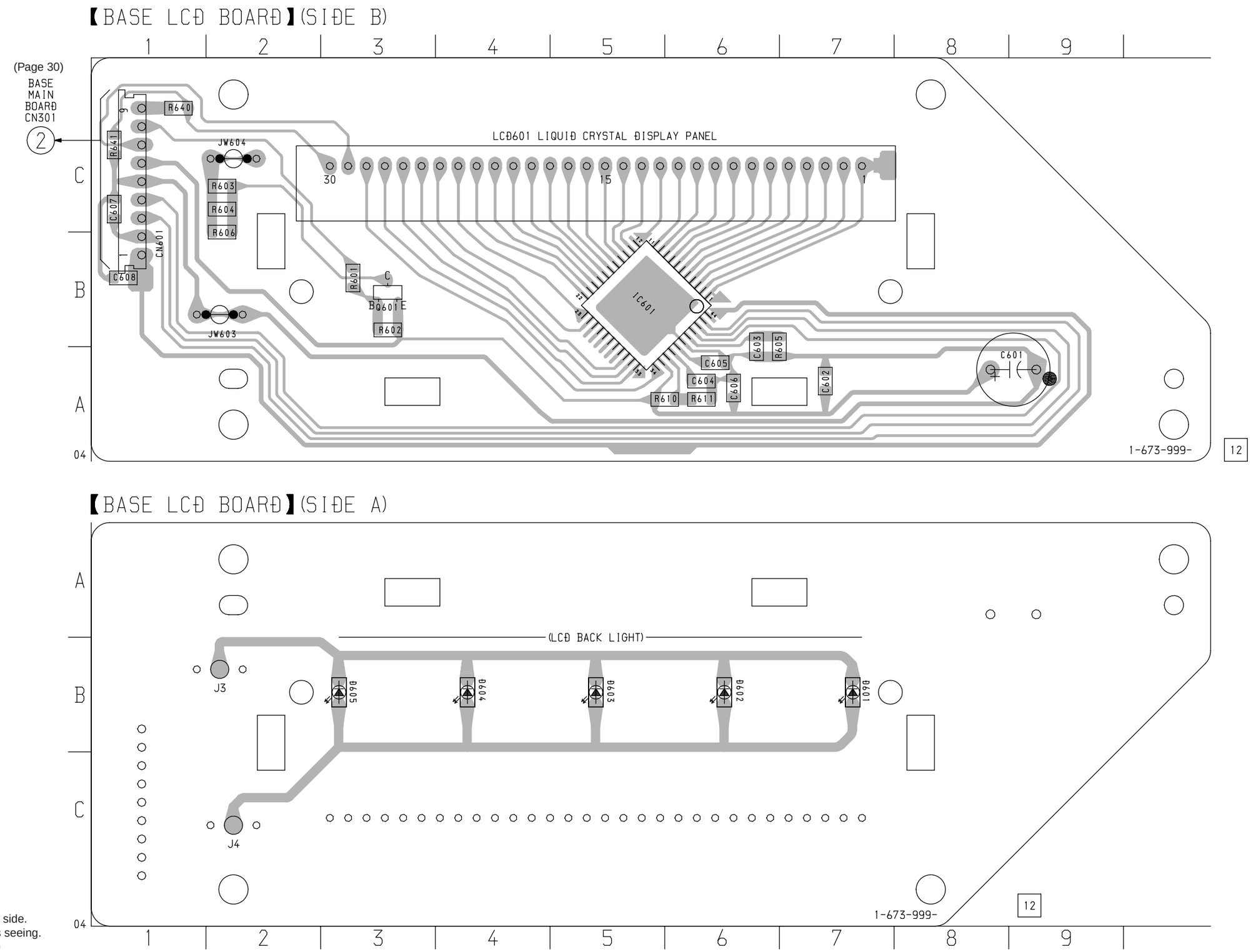
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 12 V and fed with regulated dc power supply from J101 with 100 Ω in series.
- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : TALK
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

5-10. PRINTED WIRING BOARD — BASE LCD SECTION —

• **Semiconductor Location**

Ref. No.	Location
(D601)	B-7
(D602)	B-6
(D603)	B-5
(D604)	B-4
(D605)	B-3
IC601	B-5
Q601	B-3

( ) : SIDE A



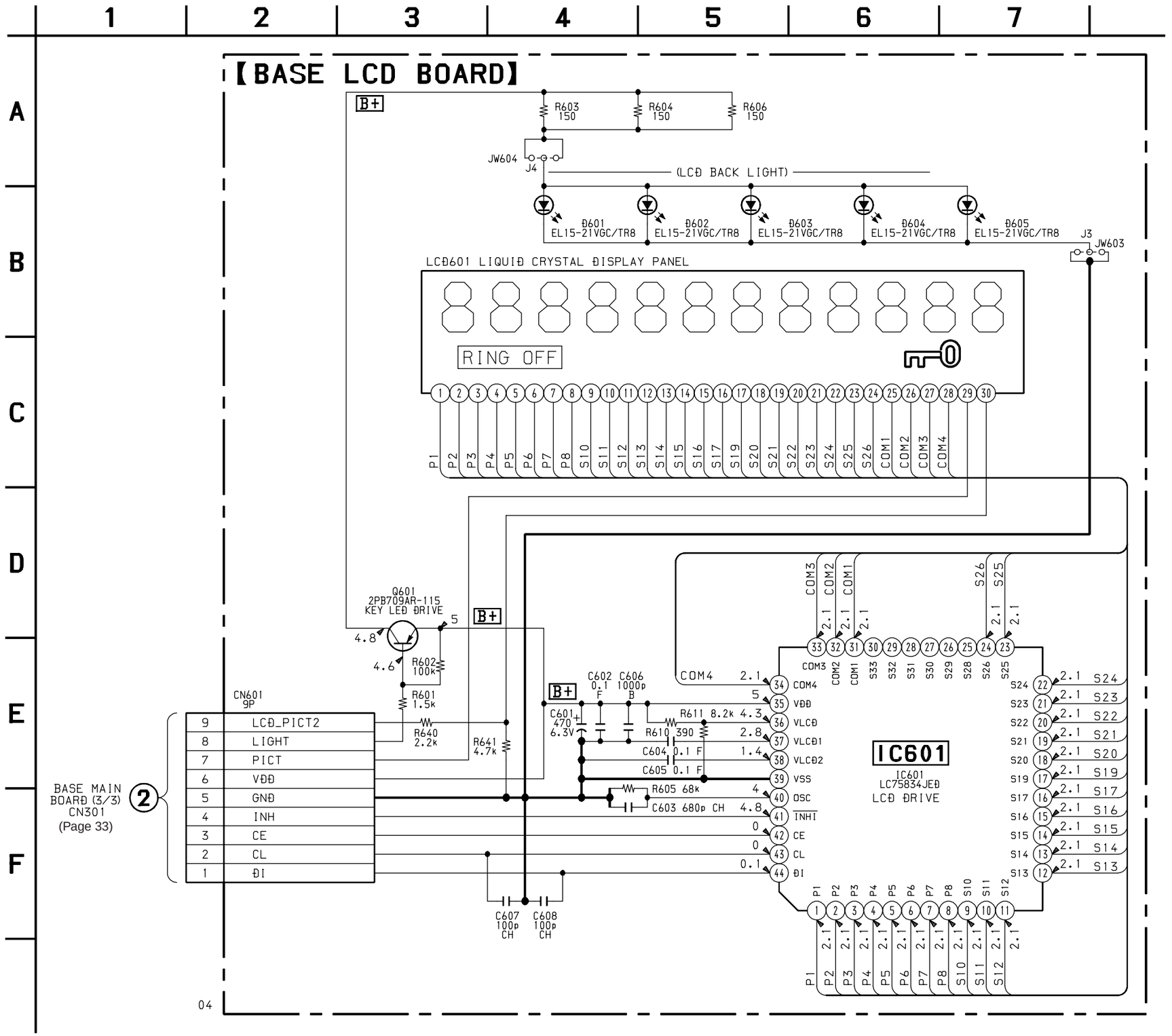
Note:

• ○—— : parts extracted from the component side.

• ▒▒▒ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

Caution:
Pattern face side: (Side B) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A) Parts on the parts face side seen from the parts face are indicated.

5-11. SCHEMATIC DIAGRAM — BASE LCD SECTION — • Refer to page 41 for IC Block Diagrams.



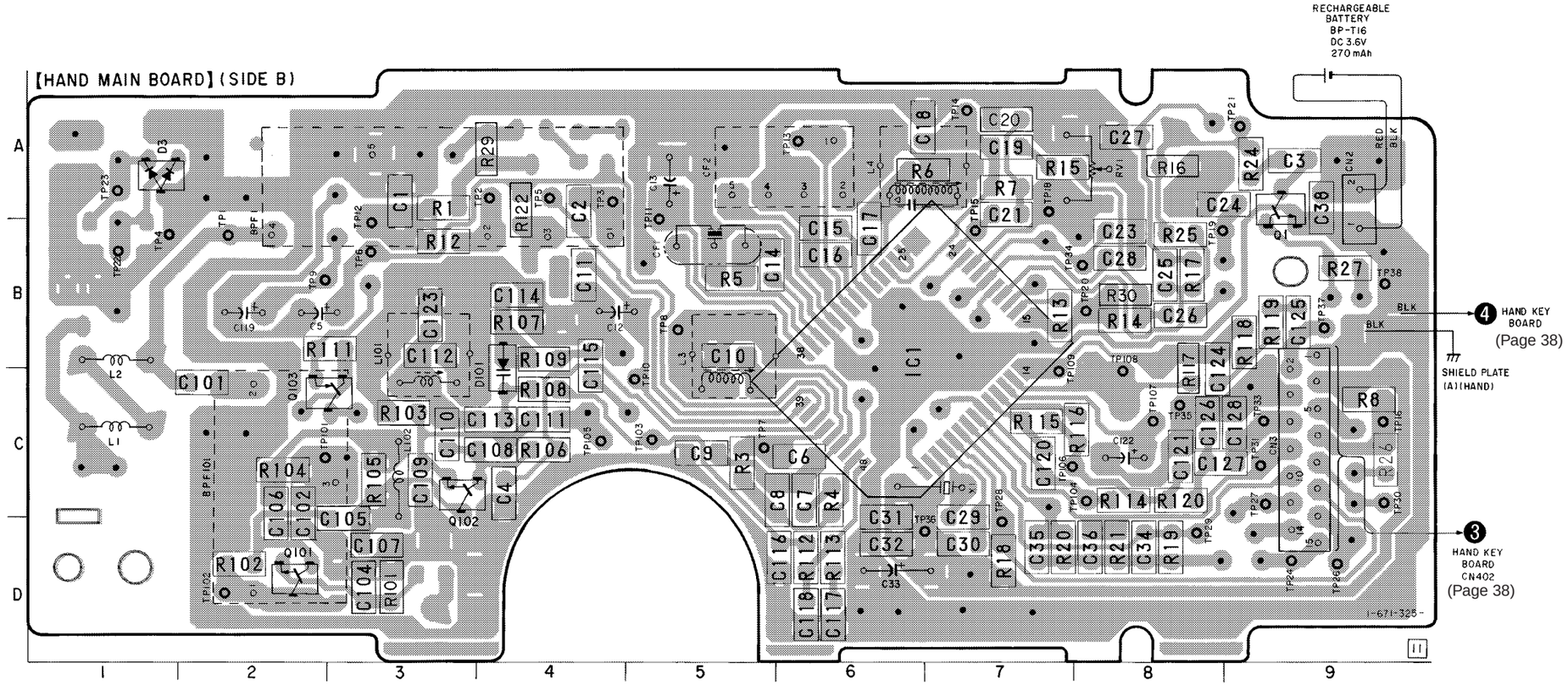
Note:

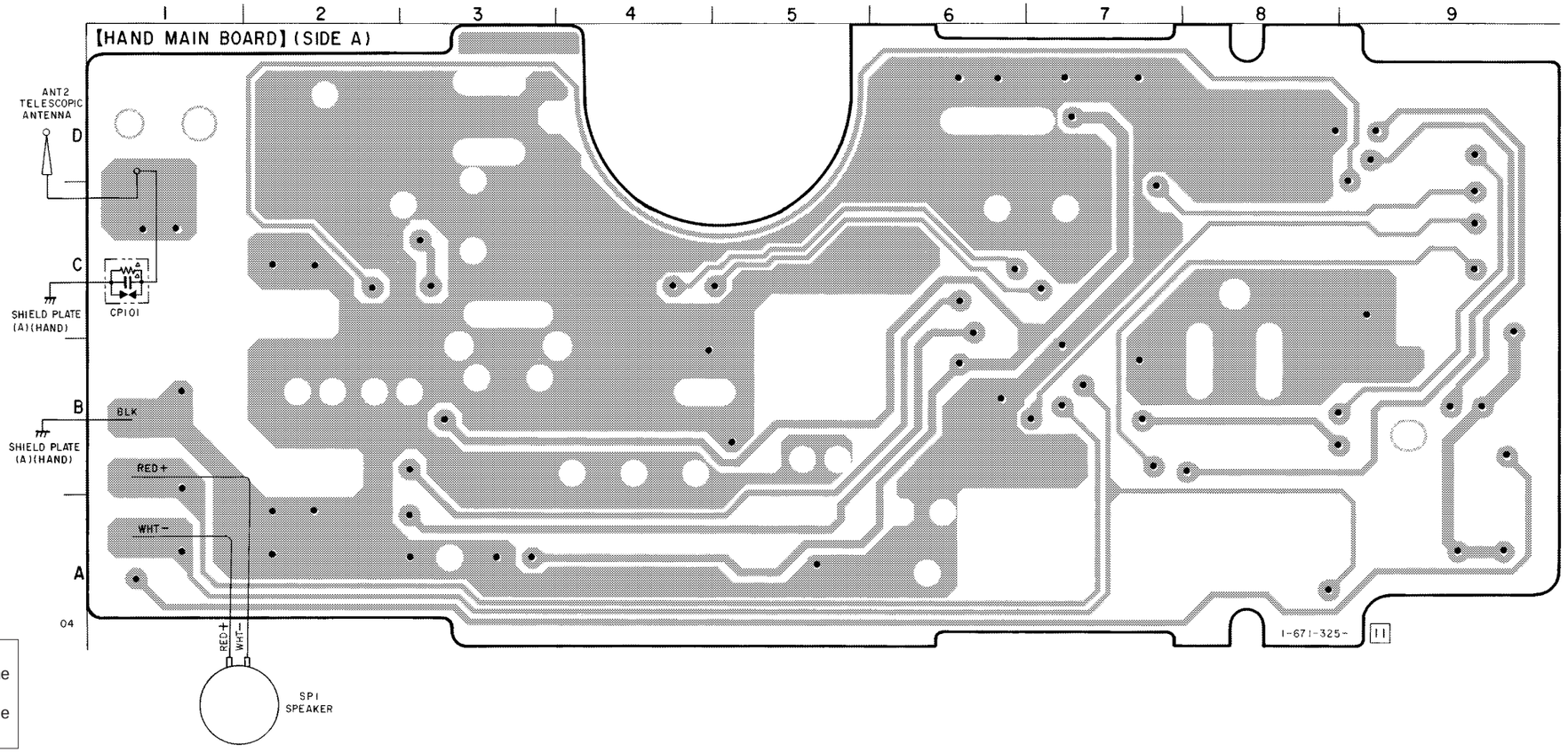
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line.
- Power voltage is dc 12 V and fed with regulated dc power supply from J101 with 100 Ω in series.
- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : TALK
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

5-12. PRINTED WIRING BOARD — HAND MAIN SECTION —

- **Semiconductor Location**

Ref. No.	Location
D3	A-1
D101	C-4
IC1	B-6
Q1	B-9
Q101	D-2
Q102	C-3
Q103	C-2


【HAND MAIN BOARD】(SIDE B)
RECHARGEABLE BATTERY BP-T16 DC 3.6V 270mAh
4 HAND KEY BOARD (Page 38)
SHIELD PLATE (A)(HAND)
3 HAND KEY BOARD CN402 (Page 38)
1-671-325-11

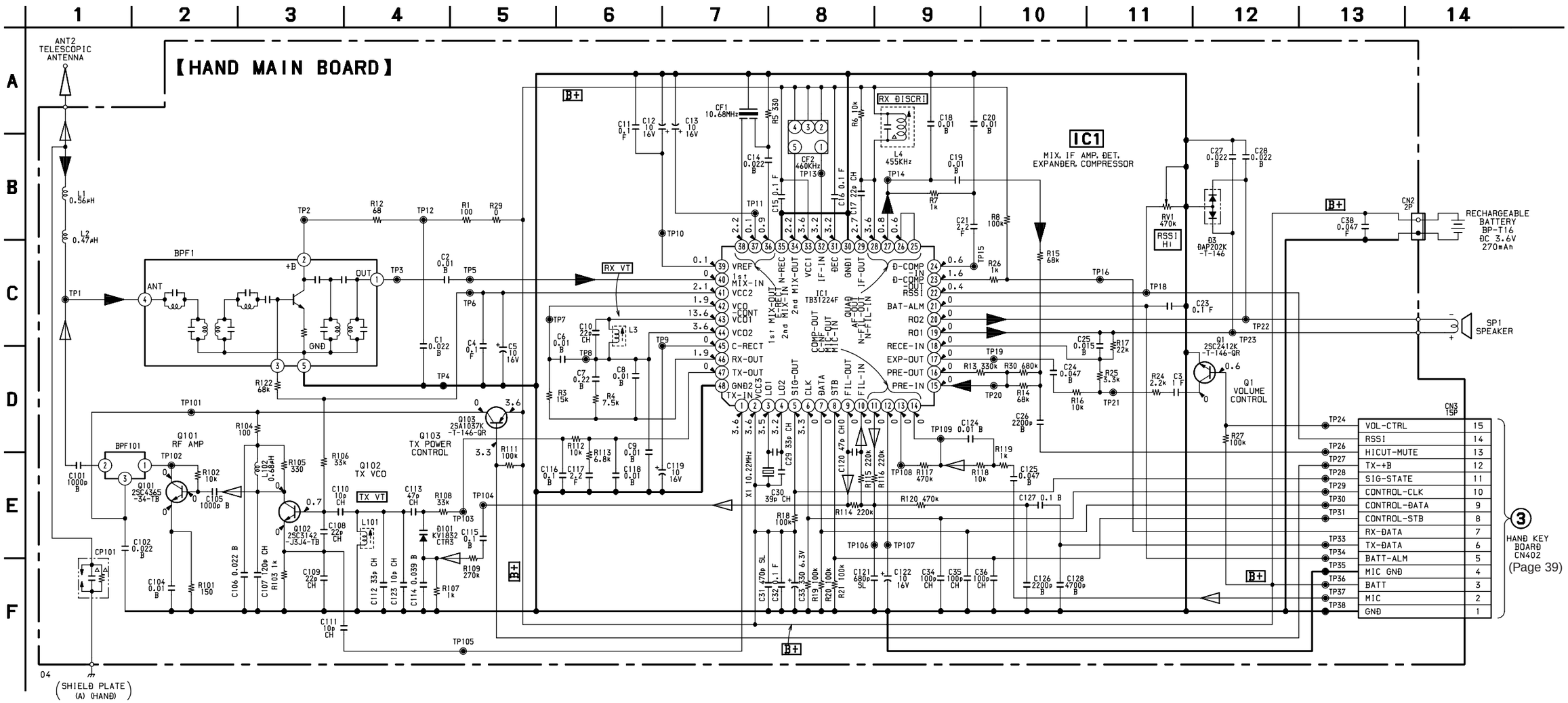


Note:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ● : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

Caution:
Pattern face side: (Side B) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A) Parts on the parts face side seen from the parts face are indicated.

5-13. SCHEMATIC DIAGRAM — HAND MAIN SECTION — • Refer to page 40 for IC Block Diagrams.



Note:

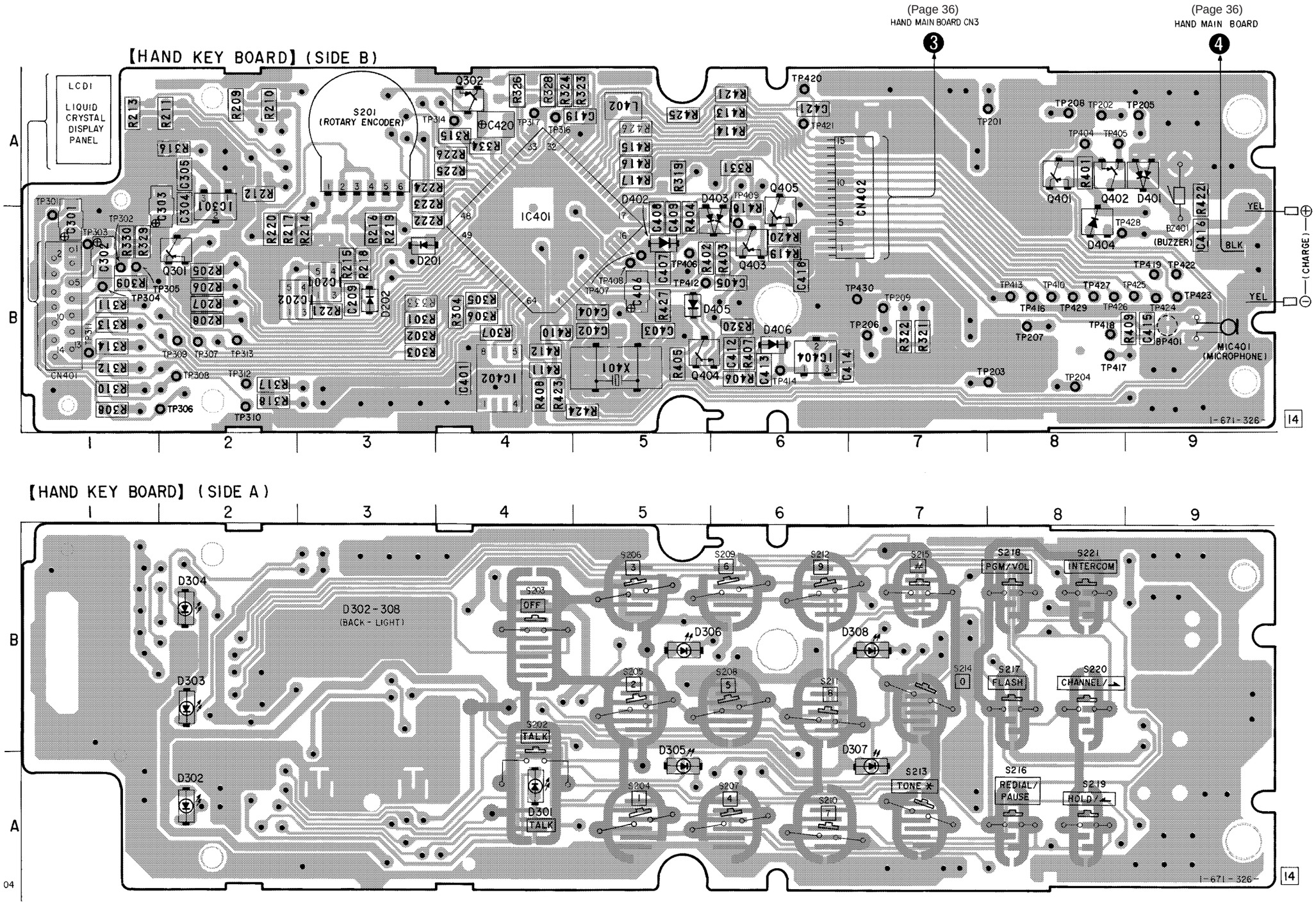
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 3.6 V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : TALK
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ▷ : RX
  ▶ : TX

5-14. PRINTED WIRING BOARD — HAND KEY SECTION —

- **Semiconductor Location**

Ref. No.	Location
D201	B-3
D202	B-3
(D301)	A-4
(D302)	A-2
(D303)	B-2
(D304)	B-2
(D305)	A-5
(D306)	B-5
(D307)	A-7
(D308)	B-7
D401	A-9
D402	B-5
D403	B-6
D404	B-8
D405	B-5
D406	B-6
IC201	B-3
IC202	B-3
IC301	B-2
IC401	B-4
IC402	B-4
IC404	B-6
Q301	B-2
Q302	A-4
Q401	A-8
Q402	A-8
Q403	B-6
Q404	B-5
Q405	B-6

( ) : SIDE A

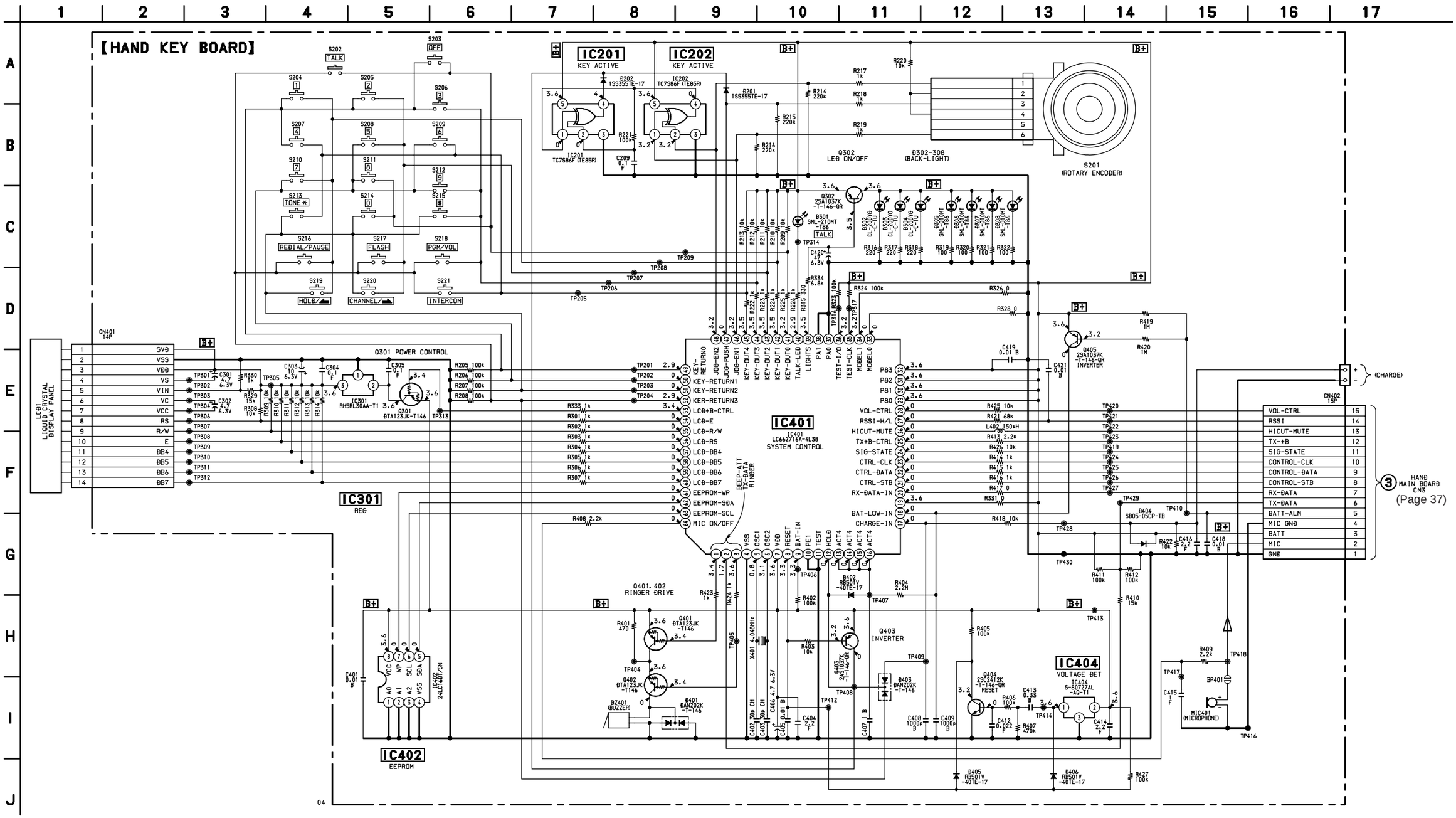


Note:

- ——— : parts extracted from the conductor side.
- ● : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.
- ▬▬ : Pattern of the rear side.

Caution:
Pattern face side: (Side B) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A) Parts on the parts face side seen from the parts face are indicated.

5-15. SCHEMATIC DIAGRAM — HAND KEY SECTION — • Refer to page 41 for IC Block Diagrams.

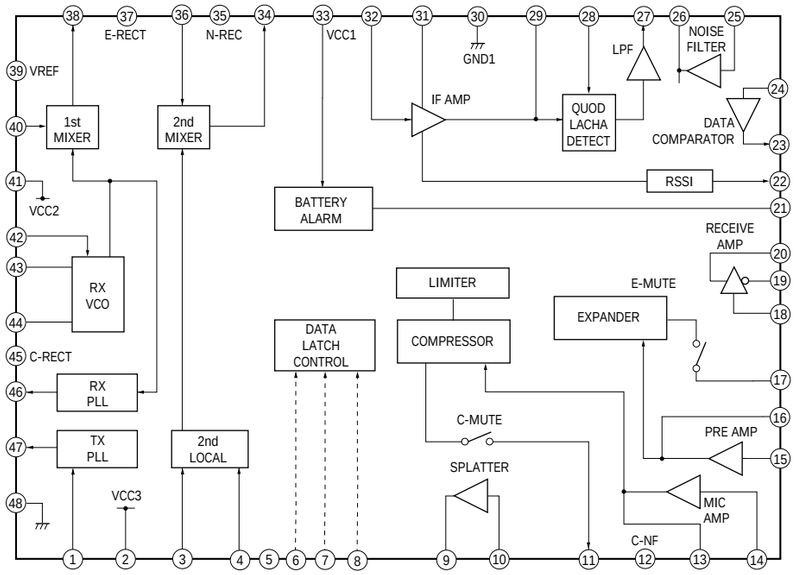


Note:

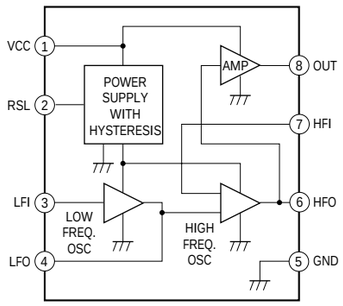
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 3.6 V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : TALK
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ▷ : RX

• **IC Block Diagrams**

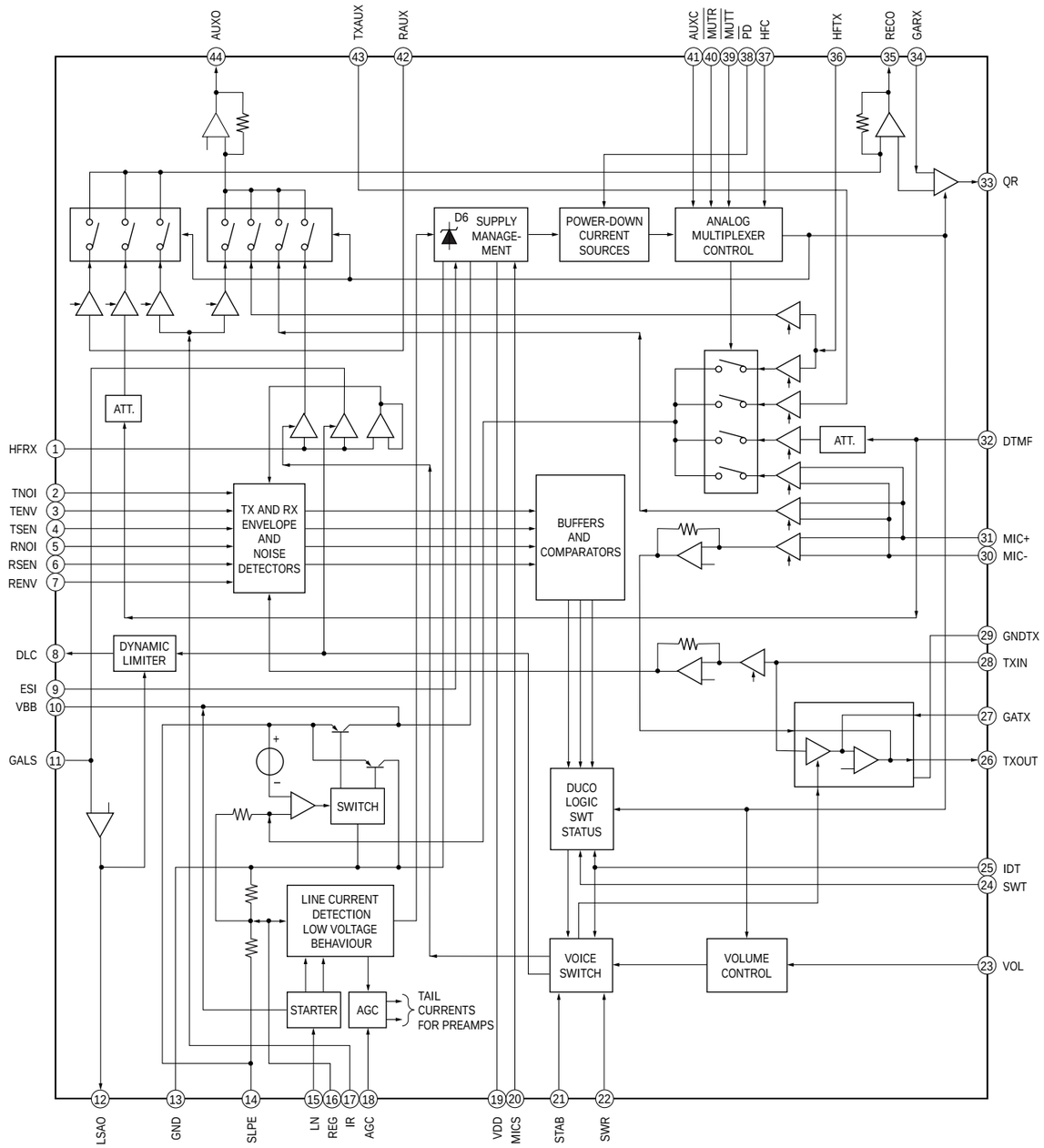
IC1 TB31224F (HAND MAIN board)



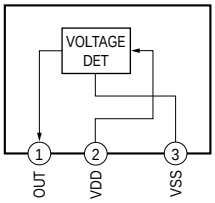
IC101 BA8206F-E2 (BASE MAIN board)



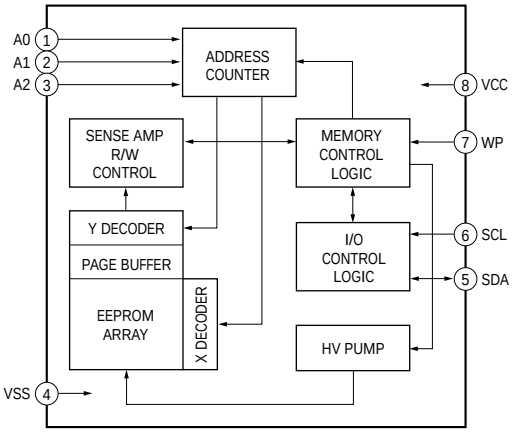
IC103 TEA1099H/C1.551 (BASE MAIN board)



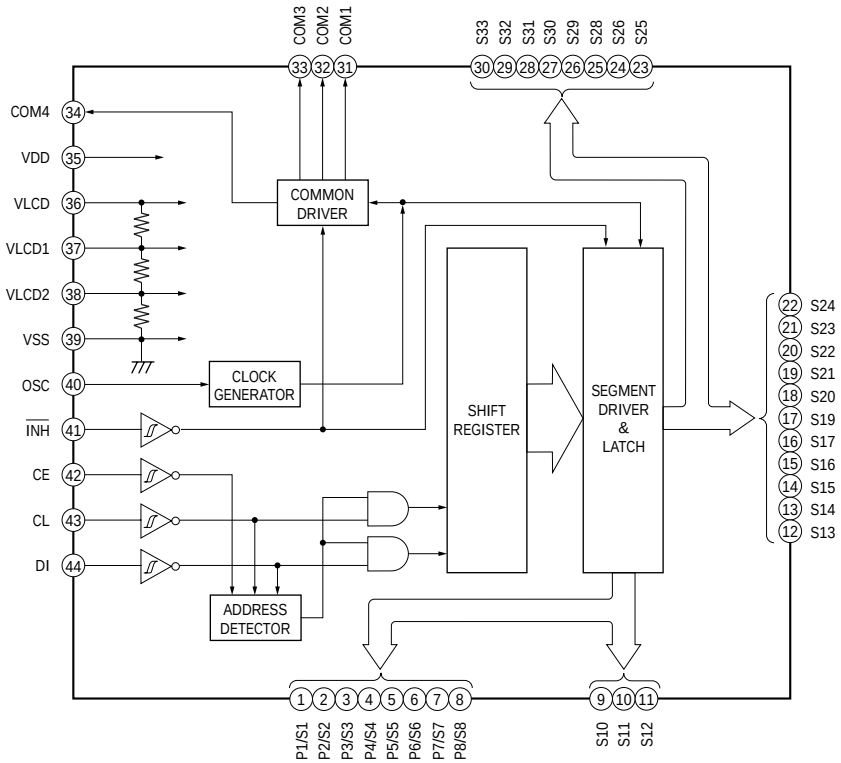
IC201 S-80730AL-AT-T1 (BASE MAIN board)
IC404 S-80727AL-AQ-T1 (HAND KEY board)



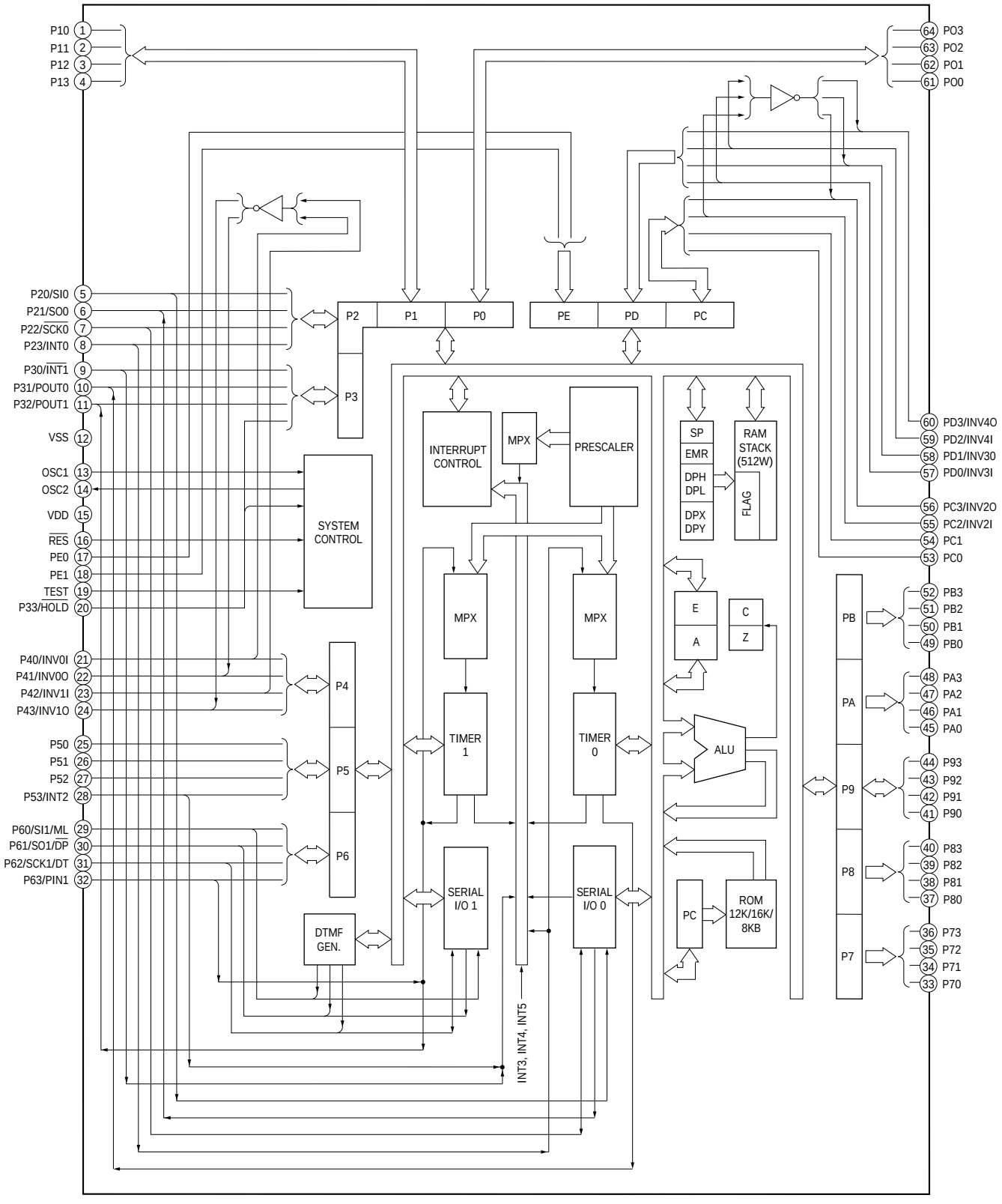
IC301 S-24C01AFJA-TB-01 (BASE MAIN board)



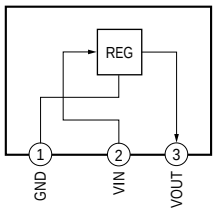
IC601 LC75834JED (BASE LCD board)



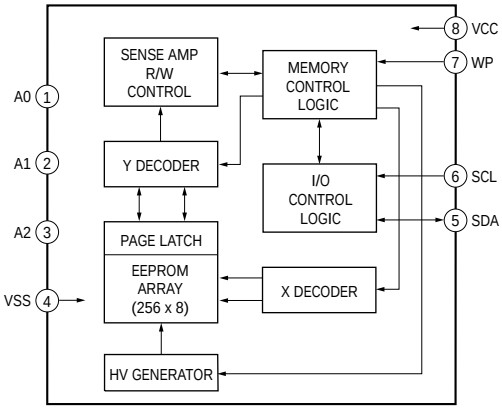
IC302 LC662516A-4L37 (BASE MAIN board)



IC301 RH5RL30AA-T1 (HAND KEY board)



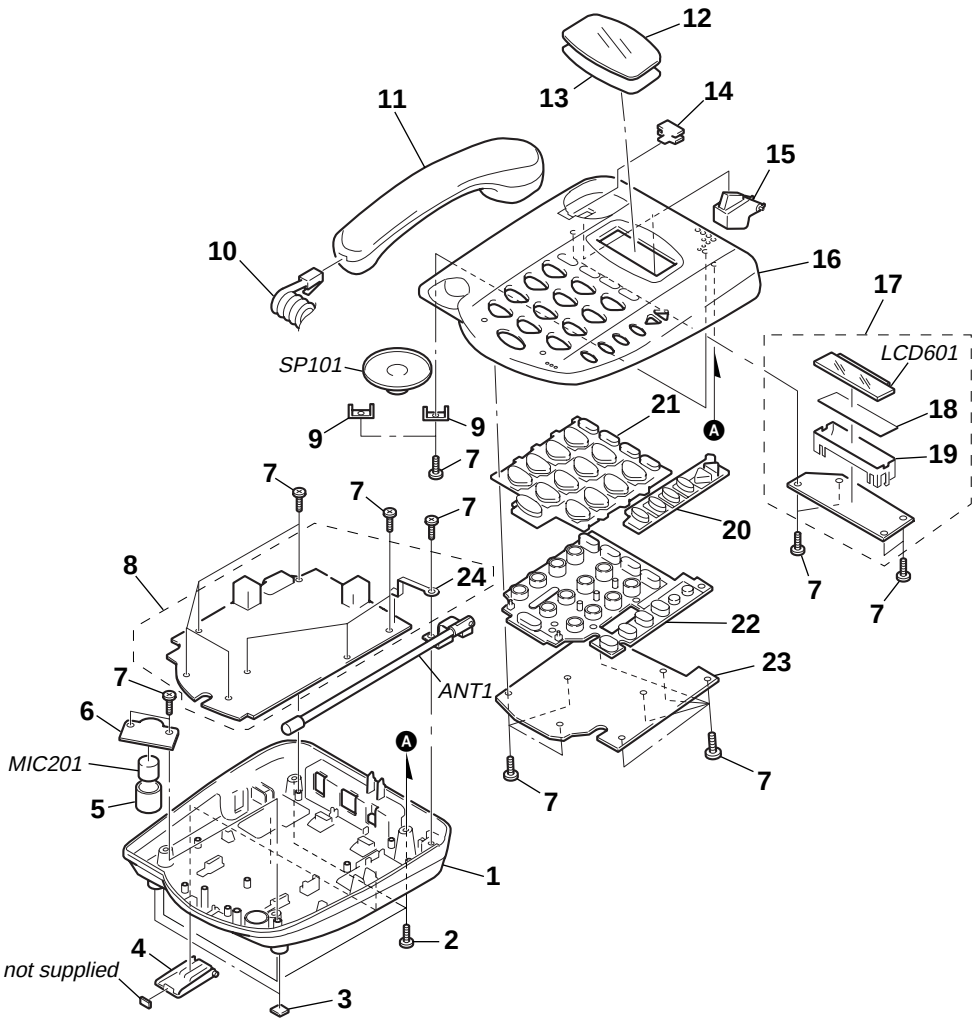
IC402 24LC16BT/SN (HAND KEY board)



SECTION 6
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials are given in the last of this parts list.

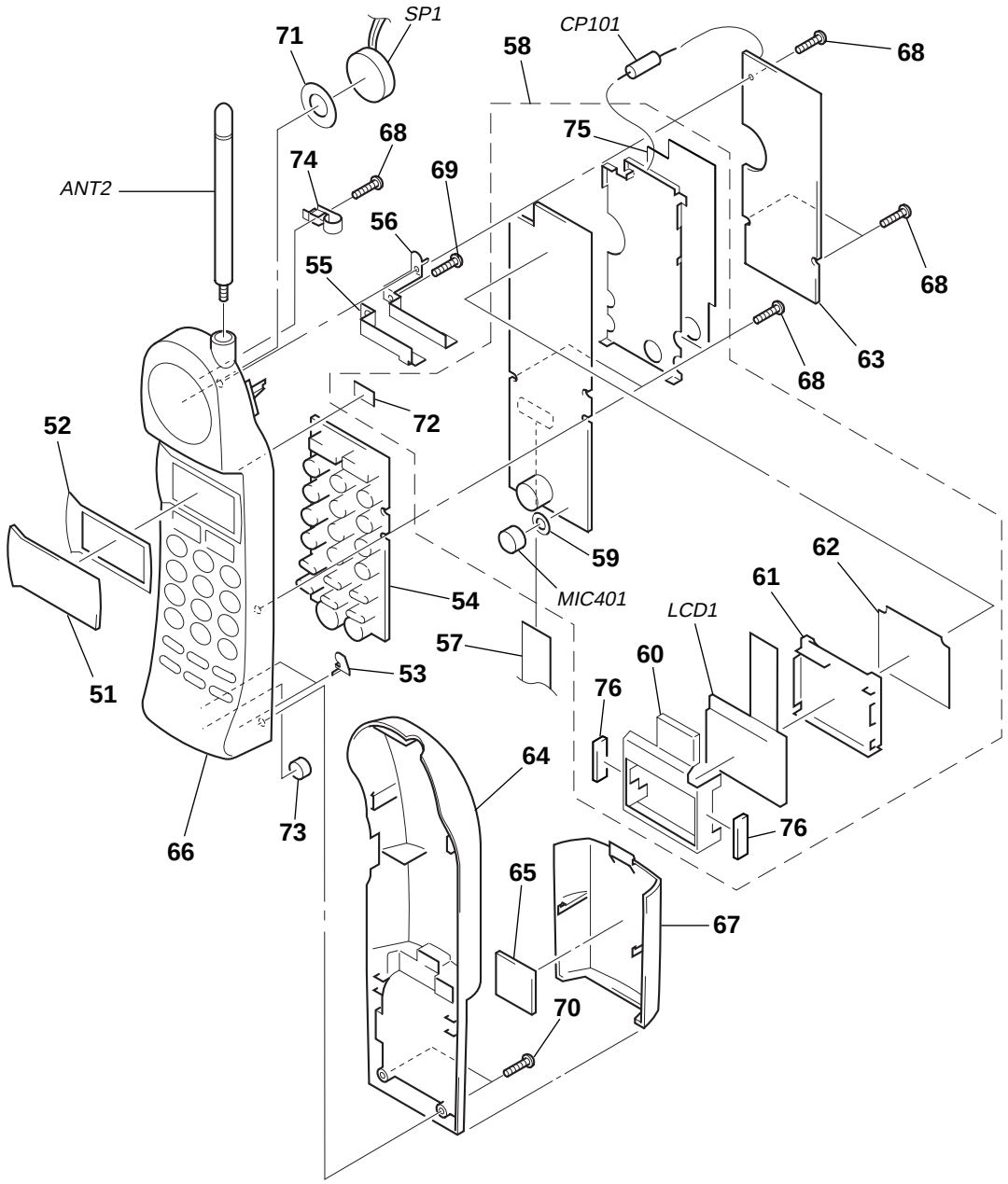
6-1. BASE PHONE SECTION



Ref. No.	Part No.	Description	Remark
1	3-038-799-01	CABINET (LOWER)	
2	7-685-647-79	SCREW +P 3X10 TYPE2 NON-SLIT	
3	3-936-696-21	FOOT, RUBBER	
4	3-038-803-01	STAND (PARENT)	
5	3-918-133-01	CUSHION (MICROPHONE)	
* 6	1-673-997-12	BASE MIC BOARD	
7	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
* 8	A-3622-313-A	BASE MAIN BOARD, COMPLETE	
9	3-012-141-01	BRACKET (SPEAKER)	
10	1-775-798-41	CORD, CURL	
11	X-3377-451-1	HAND ASSY (G), LOCAL	
12	3-033-281-01	WINDOW (BASE)	
13	3-035-377-01	SHEET (WINDOW) (B)	
14	3-038-802-01	HANGER (WALL HOOK)	

Ref. No.	Part No.	Description	Remark
15	3-036-858-01	LEVER, HOOK	
16	3-032-900-21	CABINET (UPPER)	
* 17	A-3622-289-A	BASE LCD BOARD, COMPLETE	
* 18	3-033-282-01	ILLUMINATOR (BASE)	
* 19	3-033-003-01	HOLDER (BASE LCD)	
20	3-038-801-01	BUTTON (FUNCTION)	
21	3-012-131-01	BUTTON (12 KEY) (PARENT)	
22	1-771-045-21	SWITCH, RUBBER KEY	
* 23	1-673-998-11	BASE KEY BOARD	
24	3-012-557-01	TERMINAL (ANT)	
ANT1	1-501-982-11	ANTENNA, TELESCOPIC	
LCD601	1-803-592-11	DISPLAY PANEL, LIQUID CRYSTAL	
MIC201	1-542-349-11	MICROPHONE, ELECTRET CONDENSER (MIC)	
SP101	1-505-802-11	SPEAKER (5.7cm)	

6-2. HANDSET SECTION



Ref. No.	Part No.	Description	Remark
51	3-025-399-01	WINDOW (LCD)	
52	3-027-148-01	SHEET (WINDOW), ADHESIVE	
53	3-025-401-01	TERMINAL (HAND), CHARGE	
54	1-771-405-61	SWITCH, RUBBER KEY	
55	3-025-829-01	HOLDER, ANTENNA	
56	3-025-525-01	TERMINAL (ANTENNA H)	
57	1-790-013-11	WIRE (FLAT TYPE) (15 CORE)	
* 58	A-3622-312-A	HAND KEY BOARD, COMPLETE	
59	3-036-324-01	SHEET (MICROPHONE)	
60	3-025-402-01	HOLDER (LCD)	
61	3-025-400-01	PLATE (LCD), LIGHT GUIDE	
62	3-027-149-01	SHEET (LCD)	
* 63	A-3672-744-A	HAND MAIN BOARD, COMPLETE	
64	3-025-397-01	CABINET (REAR)	
65	3-027-146-01	LID (H), CUSHION BATTERY CASE	
66	3-025-396-41	CABINET (FRONT)	

Ref. No.	Part No.	Description	Remark
67	3-025-398-01	LID (HAND), BATTERY CASE	
68	3-371-765-21	SCREW (2X8), +BTP	
69	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
70	7-685-535-14	SCREW +BTP 2.6X10 TYPE2 N-S	
71	3-027-147-01	SHEET (RECEIVER), ADHESIVE	
72	3-027-565-01	SHEET (LCD), ELECTROSTATIC	
73	3-031-843-01	SPONGE (MICROPHONE)	
74	3-031-989-01	BAND (ANTENNA)	
75	3-037-755-01	SHEET (HAND), INSULATING	
76	3-037-196-01	SPONGE (HAND)	
ANT2	1-754-006-11	ANTENNA, TELESCOPIC	
CP101	1-519-504-11	GAP, DISCHARGE	
LCD1	1-803-146-11	DISPLAY PANEL, LIQUID CRYSTAL	
MIC401	1-542-349-11	MICROPHONE, ELECTRET CONDENSER	
SP1	1-505-333-12	SPEAKER (2.1cm)	

BASE KEY **BASE LCD**

BASE MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-673-998-11	BASE KEY BOARD			
		**********			
		< DIODE >			
D501	8-719-074-76	LED EL15-21VGC/TR8 (POWER)			
D502	8-719-074-76	LED EL15-21VGC/TR8 (LINE)			
**********					
*	A-3622-289-A	BASE LCD BOARD, COMPLETE			
		**********			
*	3-033-003-01	HOLDER (BASE LCD)			
*	3-033-282-01	ILLUMINATOR (BASE)			
		< CAPACITOR >			
C601	1-126-935-11	ELECT	470uF	20%	6.3V
C602	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C603	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C604	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C605	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C606	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C607	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C608	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
		< DIODE >			
D601	8-719-074-76	LED EL15-21VGC/TR8			
D602	8-719-074-76	LED EL15-21VGC/TR8			
D603	8-719-074-76	LED EL15-21VGC/TR8			
D604	8-719-074-76	LED EL15-21VGC/TR8			
D605	8-719-074-76	LED EL15-21VGC/TR8			
		< IC >			
IC601	8-759-443-68	IC LC75834JED			
		< LIQUID CRYSTAL DISPLAY >			
LCD601	1-803-592-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q601	8-729-216-22	TRANSISTOR 2SA1162-G			
		< RESISTOR >			
R601	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R602	1-216-097-00	RES,CHIP	100K	5%	1/10W
R603	1-216-029-00	METAL CHIP	150	5%	1/10W
R604	1-216-029-00	METAL CHIP	150	5%	1/10W
R605	1-216-093-00	RES,CHIP	68K	5%	1/10W
R606	1-216-029-00	METAL CHIP	150	5%	1/10W
R610	1-216-039-00	METAL CHIP	390	5%	1/10W
R611	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R640	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R641	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
**********					
*	A-3622-313-A	BASE MAIN BOARD, COMPLETE			
		**********			
	3-012-557-01	TERMINAL (ANT)			
		< CAPACITOR >			
C1	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C2	1-107-427-11	CERAMIC	0.001uF	10%	1KV
C3	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C4	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C5	1-163-087-00	CERAMIC CHIP	4PF		50V
C6	1-163-224-11	CERAMIC CHIP	7PF	0.25PF	50V
C7	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C8	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C9	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C10	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C11	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C12	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C13	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C14	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C15	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C16	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C18	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C19	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C20	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C21	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C22	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C23	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C24	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C25	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C26	1-126-964-11	ELECT	10uF	20%	50V
C27	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C28	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C29	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C30	1-126-964-11	ELECT	10uF	20%	50V
C31	1-126-964-11	ELECT	10uF	20%	50V
C32	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

Ref. No.	Part No.	Description			Remark
C33	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C34	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C35	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C36	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C37	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C38	1-126-964-11	ELECT	10uF	20%	50V
C39	1-163-033-11	CERAMIC CHIP	0.022uF		50V
C40	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C41	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C42	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C43	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C44	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C45	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C46	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C47	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C48	1-126-964-11	ELECT	10uF	20%	50V
C49	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C50	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C51	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C52	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C53	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C54	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C55	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C56	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C57	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C58	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C61	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C101	1-136-193-11	FILM	0.47uF	10%	250V
C102	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C103	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C104	1-126-964-11	ELECT	10uF	20%	50V
C105	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C106	1-128-551-11	ELECT	22uF	20%	25V
C107	1-126-961-11	ELECT	2.2uF	20%	50V
C108	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C109	1-126-964-11	ELECT	10uF	20%	50V
C110	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C111	1-128-551-11	ELECT	22uF	20%	25V
C113	1-137-378-11	FILM	0.22uF	5%	50V
C114	1-104-664-11	ELECT	47uF	20%	16V
C115	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C116	1-126-964-11	ELECT	10uF	20%	50V
C117	1-126-963-11	ELECT	4.7uF	20%	50V
C118	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C119	1-126-935-11	ELECT	470uF	20%	16V
C120	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C121	1-126-935-11	ELECT	470uF	20%	16V
C122	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C123	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C124	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C125	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C126	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C127	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C128	1-126-963-11	ELECT	4.7uF	20%	50V
C129	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C130	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C131	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C132	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C133	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C134	1-126-963-11	ELECT	4.7uF	20%	50V
C135	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C136	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C137	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C138	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C139	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C140	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C141	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C142	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C144	1-104-664-11	ELECT	47uF	20%	16V
C145	1-126-966-11	ELECT	33uF	20%	16V
C151	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C152	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C153	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C156	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C181	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C182	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C183	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C184	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C200	1-126-935-11	ELECT	470uF	20%	16V
C201	1-163-033-11	CERAMIC CHIP	0.022uF		50V
C202	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C203	1-163-033-11	CERAMIC CHIP	0.022uF		50V
C204	1-126-934-11	ELECT	220uF	20%	16V
C205	1-126-935-11	ELECT	470uF	20%	16V
C208	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C301	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C302	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C303	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C304	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C305	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C306	1-126-935-11	ELECT	470uF	20%	16V
C701	1-126-963-11	ELECT	4.7uF	20%	50V
C703	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C704	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C705	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C707	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C708	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C709	1-126-934-11	ELECT	220uF	20%	16V
C710	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C711	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C712	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C713	1-126-964-11	ELECT	10uF	20%	50V

< FILTER >

CF1	1-577-070-11	FILTER, CERAMIC
CF2	1-760-418-11	FILTER, CERAMIC

BASE MAIN

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN301	1-785-661-11	PIN, CONNECTOR (PC BOARD) 9P	
* CN302	1-785-665-11	PIN, CONNECTOR (PC BOARD) 13P	
		< DIODE >	
D1	8-719-800-76	DIODE 1SS133T-91	
D2	8-719-055-14	DIODE KV1832CTR3	
D10	8-719-800-76	DIODE 1SS133T-91	
D104	8-719-970-02	DIODE 1SR139-400	
D105	8-719-970-02	DIODE 1SR139-400	
D106	8-719-970-02	DIODE 1SR139-400	
D107	8-719-970-02	DIODE 1SR139-400	
D108	8-719-970-02	DIODE 1SR139-400	
D109	8-719-049-26	DIODE RB721Q	
D111	8-719-160-56	DIODE RD12F-B2	
D112	8-719-970-02	DIODE 1SR139-400	
D113	8-719-049-26	DIODE RB721Q	
D115	8-719-970-02	DIODE 1SR139-400	
D116	8-719-970-02	DIODE 1SR139-400	
D117	8-719-119-26	DIODE RD36F-T7B2	
D120	8-719-060-48	DIODE RB751V-40TE-17	
D201	8-719-110-17	DIODE RD10ESB2	
D202	8-719-109-97	DIODE RD6.8ES-B2	
D203	8-719-800-76	DIODE 1SS133T-91	
D301	8-719-049-26	DIODE RB721Q	
D302	8-719-947-20	DIODE MTZJ-T-72-5.6A	
D303	8-719-060-48	DIODE RB751V-40TE-17	
D304	8-719-060-48	DIODE RB751V-40TE-17	
D305	8-719-060-48	DIODE RB751V-40TE-17	
D701	8-719-800-76	DIODE 1SS133T-91	
D702	8-719-800-76	DIODE 1SS133T-91	
D705	8-719-060-48	DIODE RB751V-40TE-17	
D706	8-719-800-76	DIODE 1SS133T-91	
D709	8-719-800-76	DIODE 1SS133T-91	
		< BPF >	
FL1	1-239-918-11	FILTER, BAND PASS	
FL2	1-233-692-11	FILTER, BAND PASS	
FL4	1-409-671-11	COIL, IFT	
		< IC >	
IC1	8-759-462-29	IC TB31224F	
IC101	8-759-525-26	IC BA8206F-E2	
IC102	8-759-008-67	IC MC14066BF	
IC103	8-759-587-96	IC TEA1099H/C1.551	
IC201	8-759-519-46	IC S-80730AN-DT-S	
IC301	8-759-487-03	IC S-24C01AFJA-TB-01	
IC302	8-759-597-66	IC LC662516A-4L37	
		< JACK >	
J101	1-766-250-11	JACK, MODULAR (2C) 6P (LINE)	
J102	1-779-364-11	JACK, MODULAR (4C) 4P (HANDSET)	
J201	1-779-207-11	JACK, DC (POLARITY UNIFIED TYPE)	(DC IN 9V)
		< JUMPER RESISTOR >	
JC1	1-216-296-00	SHORT 0	
JC2	1-216-296-00	SHORT 0	
JC3	1-216-296-00	SHORT 0	
JC4	1-216-296-00	SHORT 0	
JC5	1-216-296-00	SHORT 0	
JC6	1-216-296-00	SHORT 0	
JC7	1-216-296-00	SHORT 0	
JC8	1-216-296-00	SHORT 0	
JC9	1-216-296-00	SHORT 0	
JC10	1-216-296-00	SHORT 0	
JC11	1-216-296-00	SHORT 0	
JC12	1-216-296-00	SHORT 0	
JC13	1-216-296-00	SHORT 0	
JC14	1-216-296-00	SHORT 0	
JC15	1-216-296-00	SHORT 0	
JC16	1-216-296-00	SHORT 0	
JC17	1-216-296-00	SHORT 0	
JC18	1-216-296-00	SHORT 0	
JC19	1-216-296-00	SHORT 0	
JC20	1-216-296-00	SHORT 0	
JC21	1-216-296-00	SHORT 0	
JC22	1-216-296-00	SHORT 0	
JC23	1-216-296-00	SHORT 0	
JC24	1-216-296-00	SHORT 0	
JC25	1-216-296-00	SHORT 0	
JC26	1-216-296-00	SHORT 0	
JC27	1-216-296-00	SHORT 0	
JC28	1-216-296-00	SHORT 0	
JC29	1-216-296-00	SHORT 0	
JC30	1-216-296-00	SHORT 0	
JC31	1-216-296-00	SHORT 0	
JC32	1-216-296-00	SHORT 0	
JC33	1-216-296-00	SHORT 0	
JC35	1-216-296-00	SHORT 0	
JC36	1-216-296-00	SHORT 0	
JC37	1-216-296-00	SHORT 0	
JC38	1-216-296-00	SHORT 0	
JC39	1-216-296-00	SHORT 0	
JC40	1-216-296-00	SHORT 0	
JC41	1-216-296-00	SHORT 0	
JC42	1-216-296-00	SHORT 0	
JC43	1-216-296-00	SHORT 0	
JC44	1-216-296-00	SHORT 0	
JC45	1-216-296-00	SHORT 0	
JC46	1-216-296-00	SHORT 0	
JC47	1-216-296-00	SHORT 0	
JC48	1-216-296-00	SHORT 0	
JC49	1-216-296-00	SHORT 0	
JC50	1-216-296-00	SHORT 0	

Ref. No.	Part No.	Description			Remark
JC51	1-216-296-00	SHORT	0		
JC52	1-216-296-00	SHORT	0		
JC53	1-216-296-00	SHORT	0		
JC61	1-216-295-00	SHORT	0		
JC62	1-216-295-00	SHORT	0		
JC63	1-216-295-00	SHORT	0		
JC64	1-216-025-00	RES,CHIP	100	5%	1/10W
JC65	1-216-295-00	SHORT	0		
JC66	1-216-295-00	SHORT	0		
JC701	1-216-296-00	SHORT	0		
		< COIL >			
L1	1-408-960-21	INDUCTOR	1.5uH		
L2	1-414-142-61	INDUCTOR	1uH		
L3	1-411-884-11	COIL, OSC			
L4	1-409-798-11	COIL, OSC			
L101	1-424-024-71	FILTER, NOISE			
L201	1-410-509-11	INDUCTOR	10uH		
L202	1-410-509-11	INDUCTOR	10uH		
L301	1-414-142-61	INDUCTOR	1uH		
L302	1-414-142-61	INDUCTOR	1uH		
L701	1-410-992-11	INDUCTOR CHIP	0.82uH		
		< PHOTO COUPLER >			
PH101	8-749-015-01	PHOTO COUPLER	K817P6		
PH102	8-749-015-01	PHOTO COUPLER	K817P6		
PH201	8-749-015-01	PHOTO COUPLER	K817P6		
		< TRANSISTOR >			
Q1	8-729-031-85	TRANSISTOR	2SC4365-34-TB		
Q2	8-729-031-85	TRANSISTOR	2SC4365-34-TB		
Q3	8-729-216-22	TRANSISTOR	2SA1162-G		
Q4	8-729-031-86	TRANSISTOR	2SC3142-J3J4-TB		
Q101	8-729-216-22	TRANSISTOR	2SA1162-G		
Q102	8-729-045-48	TRANSISTOR	2SC3415STPP		
Q103	8-729-422-33	TRANSISTOR	2PD601AR-115		
Q104	8-729-422-33	TRANSISTOR	2PD601AR-115		
Q105	8-729-927-36	TRANSISTOR	2SA1727TL-PQ		
Q106	8-729-216-22	TRANSISTOR	2SA1162-G		
Q111	8-729-422-33	TRANSISTOR	2PD601AR-115		
Q120	8-729-422-33	TRANSISTOR	2PD601AR-115		
Q121	8-729-422-33	TRANSISTOR	2PD601AR-115		
Q201	8-729-209-15	TRANSISTOR	2SD2012		
Q202	8-729-931-14	TRANSISTOR	2SD1858-Q-TV2		
Q701	8-729-216-22	TRANSISTOR	2SA1162-G		
		< RESISTOR >			
R1	1-216-037-00	METAL CHIP	330	5%	1/10W
R2	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3	1-216-025-00	RES,CHIP	100	5%	1/10W
R4	1-216-037-00	METAL CHIP	330	5%	1/10W
R5	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R6	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R7	1-216-037-00	METAL CHIP	330	5%	1/10W
R8	1-216-097-00	RES,CHIP	100K	5%	1/10W
R9	1-216-085-00	METAL CHIP	33K	5%	1/10W
R10	1-216-019-00	METAL CHIP	56	5%	1/10W
R11	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R12	1-216-049-11	RES,CHIP	1K	5%	1/10W
R13	1-216-025-00	RES,CHIP	100	5%	1/10W
R14	1-216-115-00	METAL CHIP	560K	5%	1/10W
R15	1-216-085-00	METAL CHIP	33K	5%	1/10W
R16	1-216-081-00	METAL CHIP	22K	5%	1/10W
R17	1-216-073-00	METAL CHIP	10K	5%	1/10W
R18	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R19	1-216-109-00	METAL CHIP	330K	5%	1/10W
R20	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R21	1-216-105-00	RES,CHIP	220K	5%	1/10W
R22	1-216-105-00	RES,CHIP	220K	5%	1/10W
R23	1-216-073-00	METAL CHIP	10K	5%	1/10W
R24	1-216-105-00	RES,CHIP	220K	5%	1/10W
R25	1-216-101-00	METAL CHIP	150K	5%	1/10W
R26	1-216-081-00	METAL CHIP	22K	5%	1/10W
R27	1-216-049-11	RES,CHIP	1K	5%	1/10W
R28	1-216-049-11	RES,CHIP	1K	5%	1/10W
R29	1-216-049-11	RES,CHIP	1K	5%	1/10W
R30	1-216-109-00	METAL CHIP	330K	5%	1/10W
R31	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R32	1-216-101-00	METAL CHIP	150K	5%	1/10W
R33	1-216-073-00	METAL CHIP	10K	5%	1/10W
R34	1-216-077-00	METAL CHIP	15K	5%	1/10W
R35	1-216-095-00	METAL CHIP	82K	5%	1/10W
R36	1-216-097-00	RES,CHIP	100K	5%	1/10W
R37	1-216-095-00	METAL CHIP	82K	5%	1/10W
R38	1-216-097-00	RES,CHIP	100K	5%	1/10W
R39	1-216-121-00	RES,CHIP	1M	5%	1/10W
R61	1-216-073-00	METAL CHIP	10K	5%	1/10W
R62	1-216-097-00	RES,CHIP	100K	5%	1/10W
R64	1-216-097-00	RES,CHIP	100K	5%	1/10W
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-215-874-11	METAL OXIDE	6.8K	5%	1W F
R103	1-216-113-00	METAL CHIP	470K	5%	1/10W
R104	1-216-077-00	METAL CHIP	15K	5%	1/10W
R105	1-216-077-00	METAL CHIP	15K	5%	1/10W
R106	1-216-097-00	RES,CHIP	100K	5%	1/10W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-089-00	RES,CHIP	47K	5%	1/10W
R111	1-216-101-00	METAL CHIP	150K	5%	1/10W
R112	1-216-097-00	RES,CHIP	100K	5%	1/10W
R114	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R115	1-216-113-00	METAL CHIP	470K	5%	1/10W
R116	1-216-073-00	METAL CHIP	10K	5%	1/10W
R117	1-216-105-00	RES,CHIP	220K	5%	1/10W
R118	1-216-089-00	RES,CHIP	47K	5%	1/10W
R119	1-216-097-00	RES,CHIP	100K	5%	1/10W
R122	1-216-047-00	RES,CHIP	820	5%	1/10W

BASE MAIN

Ref. No.	Part No.	Description			Remark
R125	1-216-044-00	METAL CHIP	620	5%	1/10W
R126	1-216-062-00	METAL CHIP	3.6K	5%	1/10W
R127	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R128	1-216-091-00	METAL CHIP	56K	5%	1/10W
R129	1-216-025-00	RES,CHIP	100	5%	1/10W
R130	1-216-063-00	RES,CHIP	3.9K	5%	1/10W
R131	1-216-062-00	METAL CHIP	3.6K	5%	1/10W
R132	1-216-117-00	METAL CHIP	680K	5%	1/10W
R133	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R134	1-216-039-00	METAL CHIP	390	5%	1/10W
R135	1-260-081-51	CARBON	33	5%	1/2W
R136	1-216-063-00	RES,CHIP	3.9K	5%	1/10W
R137	1-216-109-00	METAL CHIP	330K	5%	1/10W
R138	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R139	1-216-079-00	METAL CHIP	18K	5%	1/10W
R140	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R141	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R142	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R143	1-216-089-00	RES,CHIP	47K	5%	1/10W
R144	1-216-073-00	METAL CHIP	10K	5%	1/10W
R145	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R146	1-216-017-00	RES,CHIP	47	5%	1/10W
R148	1-216-063-00	RES,CHIP	3.9K	5%	1/10W
R149	1-216-017-00	RES,CHIP	47	5%	1/10W
R150	1-216-111-00	METAL CHIP	390K	5%	1/10W
R151	1-216-106-00	METAL CHIP	240K	5%	1/10W
R152	1-216-097-00	RES,CHIP	100K	5%	1/10W
R154	1-216-073-00	METAL CHIP	10K	5%	1/10W
R157	1-216-113-00	METAL CHIP	470K	5%	1/10W
R158	1-216-121-00	RES,CHIP	1M	5%	1/10W
R159	1-216-105-00	RES,CHIP	220K	5%	1/10W
R161	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R162	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R163	1-216-125-00	METAL CHIP	1.5M	5%	1/10W
R164	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R165	1-216-101-00	METAL CHIP	150K	5%	1/10W
R168	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R169	1-216-113-00	METAL CHIP	470K	5%	1/10W
R170	1-216-073-00	METAL CHIP	10K	5%	1/10W
R171	1-216-081-00	METAL CHIP	22K	5%	1/10W
R172	1-216-097-00	RES,CHIP	100K	5%	1/10W
R173	1-216-109-00	METAL CHIP	330K	5%	1/10W
R182	1-216-102-00	RES,CHIP	160K	5%	1/10W
R183	1-216-105-00	RES,CHIP	220K	5%	1/10W
R190	1-216-295-00	SHORT	0		
R191	1-216-295-00	SHORT	0		
R195	1-216-079-00	METAL CHIP	18K	5%	1/10W
R196	1-216-047-00	RES,CHIP	820	5%	1/10W
R197	1-216-113-00	METAL CHIP	470K	5%	1/10W
R201	1-216-045-00	METAL CHIP	680	5%	1/10W
R202	1-216-045-00	METAL CHIP	680	5%	1/10W
R203	1-216-045-00	METAL CHIP	680	5%	1/10W
R204	1-216-033-00	METAL CHIP	220	5%	1/10W

Ref. No.	Part No.	Description			Remark
R205	1-216-033-00	METAL CHIP	220	5%	1/10W
R206	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R207	1-216-037-00	METAL CHIP	330	5%	1/10W
R210	1-216-097-00	RES,CHIP	100K	5%	1/10W
R301	1-216-073-00	METAL CHIP	10K	5%	1/10W
R302	1-216-049-11	RES,CHIP	1K	5%	1/10W
R304	1-216-295-00	SHORT	0		
R305	1-216-073-00	METAL CHIP	10K	5%	1/10W
R306	1-216-097-00	RES,CHIP	100K	5%	1/10W
R308	1-216-097-00	RES,CHIP	100K	5%	1/10W
R311	1-216-097-00	RES,CHIP	100K	5%	1/10W
R312	1-216-097-00	RES,CHIP	100K	5%	1/10W
R314	1-216-097-00	RES,CHIP	100K	5%	1/10W
R315	1-216-097-00	RES,CHIP	100K	5%	1/10W
R316	1-216-097-00	RES,CHIP	100K	5%	1/10W
R317	1-216-097-00	RES,CHIP	100K	5%	1/10W
R318	1-216-037-00	METAL CHIP	330	5%	1/10W
R319	1-216-037-00	METAL CHIP	330	5%	1/10W
R320	1-216-097-00	RES,CHIP	100K	5%	1/10W
R322	1-216-049-11	RES,CHIP	1K	5%	1/10W
R323	1-216-049-11	RES,CHIP	1K	5%	1/10W
R324	1-216-049-11	RES,CHIP	1K	5%	1/10W
R325	1-216-049-11	RES,CHIP	1K	5%	1/10W
R326	1-216-049-11	RES,CHIP	1K	5%	1/10W
R329	1-216-073-00	METAL CHIP	10K	5%	1/10W
R330	1-216-073-00	METAL CHIP	10K	5%	1/10W
R331	1-216-073-00	METAL CHIP	10K	5%	1/10W
R332	1-216-073-00	METAL CHIP	10K	5%	1/10W
R333	1-216-073-00	METAL CHIP	10K	5%	1/10W
R334	1-216-073-00	METAL CHIP	10K	5%	1/10W
R335	1-216-097-00	RES,CHIP	100K	5%	1/10W
R336	1-216-097-00	RES,CHIP	100K	5%	1/10W
R337	1-216-097-00	RES,CHIP	100K	5%	1/10W
R338	1-216-097-00	RES,CHIP	100K	5%	1/10W
R339	1-216-073-00	METAL CHIP	10K	5%	1/10W
R341	1-216-073-00	METAL CHIP	10K	5%	1/10W
R342	1-216-073-00	METAL CHIP	10K	5%	1/10W
R351	1-216-049-11	RES,CHIP	1K	5%	1/10W
R352	1-216-049-11	RES,CHIP	1K	5%	1/10W
R353	1-216-049-11	RES,CHIP	1K	5%	1/10W
R354	1-216-049-11	RES,CHIP	1K	5%	1/10W
R355	1-216-049-11	RES,CHIP	1K	5%	1/10W
R608	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R609	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R701	1-216-033-00	METAL CHIP	220	5%	1/10W
R702	1-216-101-00	METAL CHIP	150K	5%	1/10W
R703	1-216-049-11	RES,CHIP	1K	5%	1/10W
R706	1-216-018-00	METAL CHIP	51	5%	1/10W
R707	1-216-295-00	SHORT	0		
R708	1-216-049-11	RES,CHIP	1K	5%	1/10W
R710	1-216-049-11	RES,CHIP	1K	5%	1/10W
R711	1-216-105-00	RES,CHIP	220K	5%	1/10W

Ref. No.	Part No.	Description			Remark
		< VARIABLE RESISTOR >			
RV1	1-241-770-11	RES, ADJ, CARBON 1M			
RV201	1-249-439-11	CARBON	68K	5%	1/4W
RV202	1-247-860-11	CARBON	16K	5%	1/4W
		< SWITCH >			
S101	1-692-494-11	SWITCH, HOOK (HOOK)			
S301	1-692-953-11	SWITCH, SLIDE (DIAL MODE)			
		< TRANSFORMER >			
T101	1-421-923-11	TRANSFORMER, LINE FILTER			
		< SURGE ABSORBER >			
VAR101	1-803-011-11	ABSORBER, SURGE (TPA180A18)			
		< VIBRATOR >			
X1	1-760-325-11	VIBRATOR, CRYSTAL (10.22MHz)			
X301	1-760-324-11	VIBRATOR, CRYSTAL (4.048MHz)			
**********					
*	1-673-997-12	BASE MIC BOARD			
		**********			
	3-918-133-01	CUSHION (MICROPHONE)			
		< MICROPHONE >			
MIC201	1-542-349-11	MICROPHONE, ELECTRET CONDENSER (MIC)			
**********					
*	A-3622-312-A	HAND KEY BOARD, COMPLETE			
		**********			
	3-025-400-01	PLATE (LCD), LIGHT GUIDE			
	3-025-402-01	HOLDER (LCD)			
	3-027-149-01	SHEET (LCD)			
	3-027-565-01	SHEET (LCD), ELECTROSTATIC			
	3-036-324-01	SHEET (MICROPHONE)			
	3-037-196-01	SPONGE (HAND)			
	3-037-755-01	SHEET (HAND), INSULATING			
		< BUZZER >			
BZ401	1-544-603-11	BUZZER			
		< CAPACITOR >			
C209	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C301	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C302	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C303	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C304	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C305	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C401	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C402	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C403	1-163-104-00	CERAMIC CHIP	30PF	5%	50V

Ref. No.	Part No.	Description			Remark
C404	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C405	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C406	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C407	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C408	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C409	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C412	1-163-033-11	CERAMIC CHIP	0.022uF		50V
C413	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C414	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C415	1-164-346-11	CERAMIC CHIP	1uF		16V
C416	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C418	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C419	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C420	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C421	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
		< CONNECTOR >			
CN401	1-566-514-11	CONNECTOR, FPC (ZIF) 14P			
CN402	1-774-403-11	CONNECTOR, FPC 15P			
		< DIODE >			
D201	8-719-988-62	DIODE 1SS355			
D202	8-719-988-62	DIODE 1SS355			
D301	8-719-060-99	LED SML-210MT-T86 (TALK)			
D302	8-719-066-82	LED CL-200YG-C-TU			
D303	8-719-066-82	LED CL-200YG-C-TU			
D304	8-719-066-82	LED CL-200YG-C-TU			
D305	8-719-059-94	LED SML-010MT-T86			
D306	8-719-059-94	LED SML-010MT-T86			
D307	8-719-059-94	LED SML-010MT-T86			
D308	8-719-059-94	LED SML-010MT-T86			
D401	8-719-914-43	DIODE DAN202K			
D402	8-719-058-24	DIODE RB501V-40TE-17			
D403	8-719-914-43	DIODE DAN202K			
D404	8-719-938-75	DIODE SB05-05CP			
D405	8-719-058-24	DIODE RB501V-40TE-17			
D406	8-719-058-24	DIODE RB501V-40TE-17			
		< IC >			
IC201	8-759-195-02	IC TC7S86F-TE85L			
IC202	8-759-195-02	IC TC7S86F-TE85L			
IC301	8-759-448-39	IC RH5RL30AA-T1			
IC401	8-759-597-65	IC LC662716A-4L38			
IC402	8-759-454-79	IC 24LC16BT/SN			
IC404	8-759-082-66	IC S-80727AL-AQ-T1			
		< COIL >			
L402	1-410-656-11	INDUCTOR CHIP 150uH			
		< LIQUID CRYSTAL DISPLAY >			
LCD1	1-803-146-11	DISPLAY PANEL, LIQUID CRYSTAL			

HAND KEY

Ref. No.	Part No.	Description			Remark
		< MICROPHONE >			
MIC401	1-542-349-11	MICROPHONE, ELECTRET CONDENSER			
		< TRANSISTOR >			
Q301	8-729-923-62	TRANSISTOR DTA123JK			
Q302	8-729-216-22	TRANSISTOR 2SA1162-G			
Q401	8-729-923-62	TRANSISTOR DTA123JK			
Q402	8-729-923-62	TRANSISTOR DTA123JK			
Q403	8-729-216-22	TRANSISTOR 2SA1162-G			
Q404	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q405	8-729-216-22	TRANSISTOR 2SA1162-G			
		< RESISTOR >			
R205	1-216-097-00	RES,CHIP	100K	5%	1/10W
R206	1-216-097-00	RES,CHIP	100K	5%	1/10W
R207	1-216-097-00	RES,CHIP	100K	5%	1/10W
R208	1-216-097-00	RES,CHIP	100K	5%	1/10W
R209	1-216-073-00	METAL CHIP	10K	5%	1/10W
R210	1-216-073-00	METAL CHIP	10K	5%	1/10W
R211	1-216-073-00	METAL CHIP	10K	5%	1/10W
R212	1-216-073-00	METAL CHIP	10K	5%	1/10W
R213	1-216-073-00	METAL CHIP	10K	5%	1/10W
R214	1-216-105-00	RES,CHIP	220K	5%	1/10W
R215	1-216-105-00	RES,CHIP	220K	5%	1/10W
R216	1-216-105-00	RES,CHIP	220K	5%	1/10W
R217	1-216-049-11	RES,CHIP	1K	5%	1/10W
R218	1-216-049-11	RES,CHIP	1K	5%	1/10W
R219	1-216-049-11	RES,CHIP	1K	5%	1/10W
R220	1-216-073-00	METAL CHIP	10K	5%	1/10W
R221	1-216-097-00	RES,CHIP	100K	5%	1/10W
R222	1-216-049-11	RES,CHIP	1K	5%	1/10W
R223	1-216-049-11	RES,CHIP	1K	5%	1/10W
R224	1-216-049-11	RES,CHIP	1K	5%	1/10W
R225	1-216-049-11	RES,CHIP	1K	5%	1/10W
R226	1-216-049-11	RES,CHIP	1K	5%	1/10W
R301	1-216-049-11	RES,CHIP	1K	5%	1/10W
R302	1-216-049-11	RES,CHIP	1K	5%	1/10W
R303	1-216-049-11	RES,CHIP	1K	5%	1/10W
R304	1-216-049-11	RES,CHIP	1K	5%	1/10W
R305	1-216-049-11	RES,CHIP	1K	5%	1/10W
R306	1-216-049-11	RES,CHIP	1K	5%	1/10W
R307	1-216-049-11	RES,CHIP	1K	5%	1/10W
R308	1-216-073-00	METAL CHIP	10K	5%	1/10W
R309	1-216-073-00	METAL CHIP	10K	5%	1/10W
R310	1-216-073-00	METAL CHIP	10K	5%	1/10W
R311	1-216-073-00	METAL CHIP	10K	5%	1/10W
R312	1-216-073-00	METAL CHIP	10K	5%	1/10W
R313	1-216-073-00	METAL CHIP	10K	5%	1/10W
R314	1-216-073-00	METAL CHIP	10K	5%	1/10W
R315	1-216-037-00	METAL CHIP	330	5%	1/10W
R316	1-216-033-00	METAL CHIP	220	5%	1/10W
R317	1-216-033-00	METAL CHIP	220	5%	1/10W

Ref. No.	Part No.	Description			Remark
R318	1-216-033-00	METAL CHIP	220	5%	1/10W
R319	1-216-025-00	RES,CHIP	100	5%	1/10W
R320	1-216-025-00	RES,CHIP	100	5%	1/10W
R321	1-216-025-00	RES,CHIP	100	5%	1/10W
R322	1-216-025-00	RES,CHIP	100	5%	1/10W
R323	1-216-097-00	RES,CHIP	100K	5%	1/10W
R324	1-216-097-00	RES,CHIP	100K	5%	1/10W
R326	1-216-295-00	SHORT	0		
R328	1-216-295-00	SHORT	0		
R329	1-216-077-00	METAL CHIP	15K	5%	1/10W
R330	1-216-049-11	RES,CHIP	1K	5%	1/10W
R331	1-216-295-00	SHORT	0		
R333	1-216-049-11	RES,CHIP	1K	5%	1/10W
R334	1-216-069-11	METAL CHIP	6.8K	5%	1/10W
R401	1-216-041-11	METAL CHIP	470	5%	1/10W
R402	1-216-097-00	RES,CHIP	100K	5%	1/10W
R403	1-216-073-00	METAL CHIP	10K	5%	1/10W
R404	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R405	1-216-097-00	RES,CHIP	100K	5%	1/10W
R406	1-216-097-00	RES,CHIP	100K	5%	1/10W
R407	1-216-113-00	METAL CHIP	470K	5%	1/10W
R408	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R409	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R410	1-216-077-00	METAL CHIP	15K	5%	1/10W
R411	1-216-097-00	RES,CHIP	100K	5%	1/10W
R412	1-216-097-00	RES,CHIP	100K	5%	1/10W
R413	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R414	1-216-049-11	RES,CHIP	1K	5%	1/10W
R415	1-216-049-11	RES,CHIP	1K	5%	1/10W
R416	1-216-049-11	RES,CHIP	1K	5%	1/10W
R417	1-216-295-00	SHORT	0		
R418	1-216-073-00	METAL CHIP	10K	5%	1/10W
R419	1-216-121-00	RES,CHIP	1M	5%	1/10W
R420	1-216-121-00	RES,CHIP	1M	5%	1/10W
R421	1-216-093-00	RES,CHIP	68K	5%	1/10W
R422	1-216-073-00	METAL CHIP	10K	5%	1/10W
R423	1-216-049-11	RES,CHIP	1K	5%	1/10W
R424	1-216-049-11	RES,CHIP	1K	5%	1/10W
R425	1-216-073-00	METAL CHIP	10K	5%	1/10W
R426	1-216-073-00	METAL CHIP	10K	5%	1/10W
R427	1-216-097-00	RES,CHIP	100K	5%	1/10W
		< ROTARY ENCODER >			
S201	1-475-568-12	ENCODER, ROTARY			
		< VIBRATOR >			
X401	1-781-101-11	VIBRATOR, CRYSTAL (4.048MHz)			

****

Ref. No.	Part No.	Description			Remark
*	A-3672-744-A	HAND MAIN BOARD, COMPLETE			
		**********			
		< BPF >			
BPF1	1-234-163-21	FILTER, BAND PASS			
BPF101	1-239-916-11	FILTER, BAND PASS			
		< CAPACITOR >			
C1	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C2	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C3	1-164-346-11	CERAMIC CHIP	1uF		16V
C4	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C5	1-126-791-11	ELECT	10uF	20%	16V
C6	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C7	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C8	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C9	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C10	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C11	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C12	1-126-791-11	ELECT	10uF	20%	16V
C13	1-126-791-11	ELECT	10uF	20%	16V
C14	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C15	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C16	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C17	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C18	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C19	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C20	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C21	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C23	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C24	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C25	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C26	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C27	1-163-033-11	CERAMIC CHIP	0.022uF		50V
C28	1-163-033-11	CERAMIC CHIP	0.022uF		50V
C29	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C30	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C31	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C32	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C33	1-126-245-11	ELECT	330uF	20%	6.3V
C34	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C35	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C36	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C38	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C101	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C102	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C104	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C105	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C106	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C107	1-163-253-11	CERAMIC CHIP	120PF	5%	50V
C108	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C109	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C110	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C111	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C112	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C113	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C114	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C115	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C116	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C117	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C118	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C119	1-126-791-11	ELECT	10uF	20%	16V
C120	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C121	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C122	1-126-791-11	ELECT	10uF	20%	16V
C123	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C124	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C125	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C126	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C127	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C128	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
		< FILTER >			
CF1	1-577-070-11	FILTER, CERAMIC			
CF2	1-760-418-11	FILTER, CERAMIC			
		< CONNECTOR >			
CN2	1-766-180-11	PIN, CONNECTOR (PC BOARD) 2P			
CN3	1-785-414-11	CONNECTOR, FFC/FPC 15P			
		< DIODE >			
D3	8-719-914-44	DIODE DAP202K			
D101	8-719-055-14	DIODE KV1832CTR3			
		< IC >			
IC1	8-759-462-29	IC TB31224F			
		< COIL >			
L1	1-410-751-41	INDUCTOR	0.56uH		
L2	1-410-750-41	INDUCTOR	0.47uH		
L3	1-409-670-11	COIL, OSC			
L4	1-409-671-11	COIL, IFT			
L101	1-411-883-11	COIL, OSC			
L102	1-414-140-11	INDUCTOR	0.68uH		
		< TRANSISTOR >			
Q1	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q101	8-729-031-85	TRANSISTOR 2SC4365-34-TB			
Q102	8-729-031-86	TRANSISTOR 2SC3142-J3J4-TB			
Q103	8-729-216-22	TRANSISTOR 2SA1162-G			
		< RESISTOR >			
R1	1-216-025-00	RES,CHIP	100	5%	1/10W
R3	1-216-077-00	METAL CHIP	15K	5%	1/10W
R4	1-216-070-00	METAL CHIP	7.5K	5%	1/10W

HAND MAIN

Ref. No.	Part No.	Description			Remark
R5	1-216-037-00	METAL CHIP	330	5%	1/10W
R6	1-216-073-00	METAL CHIP	10K	5%	1/10W
R7	1-216-049-11	RES,CHIP	1K	5%	1/10W
R8	1-216-097-00	RES,CHIP	100K	5%	1/10W
R12	1-216-021-00	METAL CHIP	68	5%	1/10W
R13	1-216-109-00	METAL CHIP	330K	5%	1/10W
R14	1-216-093-00	RES,CHIP	68K	5%	1/10W
R15	1-216-093-00	RES,CHIP	68K	5%	1/10W
R16	1-216-073-00	METAL CHIP	10K	5%	1/10W
R17	1-216-081-00	METAL CHIP	22K	5%	1/10W
R18	1-216-097-00	RES,CHIP	100K	5%	1/10W
R19	1-216-097-00	RES,CHIP	100K	5%	1/10W
R20	1-216-097-00	RES,CHIP	100K	5%	1/10W
R21	1-216-097-00	RES,CHIP	100K	5%	1/10W
R24	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R25	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R26	1-216-049-11	RES,CHIP	1K	5%	1/10W
R27	1-216-097-00	RES,CHIP	100K	5%	1/10W
R29	1-216-295-00	SHORT	0		
R30	1-216-117-00	METAL CHIP	680K	5%	1/10W
R101	1-216-029-00	RES,CHIP	150	5%	1/10W
R102	1-216-073-00	METAL CHIP	10K	5%	1/10W
R103	1-216-049-11	RES,CHIP	1K	5%	1/10W
R104	1-216-025-00	RES,CHIP	100	5%	1/10W
R105	1-216-037-00	METAL CHIP	330	5%	1/10W
R106	1-216-085-00	METAL CHIP	33K	5%	1/10W
R107	1-216-049-11	RES,CHIP	1K	5%	1/10W
R108	1-216-085-00	METAL CHIP	33K	5%	1/10W
R109	1-216-107-00	METAL CHIP	270K	5%	1/10W
R111	1-216-097-00	RES,CHIP	100K	5%	1/10W
R112	1-216-073-00	METAL CHIP	10K	5%	1/10W
R113	1-216-069-11	METAL CHIP	6.8K	5%	1/10W
R114	1-216-105-00	RES,CHIP	220K	5%	1/10W
R115	1-216-105-00	RES,CHIP	220K	5%	1/10W
R116	1-216-105-00	RES,CHIP	220K	5%	1/10W
R117	1-216-113-00	METAL CHIP	470K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W
R119	1-216-049-11	RES,CHIP	1K	5%	1/10W
R120	1-216-113-00	METAL CHIP	470K	5%	1/10W
R122	1-216-093-00	RES,CHIP	68K	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-241-769-11	RES, ADJ, CARBON 470K			
		< VIBRATOR >			
X1	1-760-326-11	VIBRATOR, CRYSTAL (10.22MHz)			

****

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
10	1-775-798-41	CORD, CURL (BASE PHONE)	
22	1-771-045-21	SWITCH, RUBBER KEY (BASE PHONE)	
54	1-771-405-61	SWITCH, RUBBER KEY (HANDSET)	
57	1-790-013-11	WIRE (FLAT TYPE) (15 CORE) (HANDSET)	
ANT1	1-501-982-11	ANTENNA, TELESCOPIC (BASE PHONE)	
ANT2	1-754-006-11	ANTENNA, TELESCOPIC (HANDSET)	
CP101	1-519-504-11	GAP, DISCHARGE (HANDSET)	
SP1	1-505-333-12	SPEAKER (2.1cm) (HANDSET)	
SP101	1-505-802-11	SPEAKER (5.7cm) (BASE PHONE)	

****

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-418-568-11	ADAPTOR, AC (AC-T47)	
	1-528-710-12	BATTERY, NICKEL CADMIUM (BP-T16)	
	1-696-454-11	CORD (WITH MODULAR PLUG) (LINE) (215cm)	
	3-035-684-11	LABEL, ADDRESS	
	3-865-733-21	MANUAL, INSTRUCTION (ENGLISH, TRADITIONAL CHINESE)	
	3-906-289-01	SCREW, STEP TAPPING (A)	
	X-3377-785-1	CHARGER ASSY	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Sony Corporation
Digital Telecommunication Company

99F0421-1
Printed in Japan ©1999. 6
Published by Mobile Electronics Company
Quality Assurance Dept.